be disturbed.

By contrast, it is perceived by many participants in the capital market that public sector funds may have "province building" or other goals which could conflict with the objective of maximizing shareholder wealth. Although it is difficult to determine whether such conflicts have in fact occurred, it is impossible to deny the fact that such concerns do exist. In view of the tax incentives and other policy instruments available to provincial governments which seek to promote the development of their economies, it is unlikely that these governments will be severely constrained if stricter limits are placed on the fraction of a company's shares that a public sector fund may hold. A similar argument applies to the activities of the federal government.

The thrust of the above remarks is that any legislative initiative designed to limit the potential for public sector pension funds to exert a managerial role need not, as a matter of logical consistency, be extended to private sector plans. To limit the fraction of a company's shares that a public sector fund may hold to (say) 10% need not invite a comparable initiative with regard to private sector funds. At the same time, it is worth noting that more restrictive limits are not likely to disadvantage the beneficial owners of such funds, whether public or private. To ensure that this is the case, as discussed in chapter six, the concomitant elimination of any restrictions - whether by law or by custom - on investment in foreign securities is to be encouraged.

4. The Role for Non-Voting Shares

The concern exists that public sector investment funds may wish to acquire a sufficiently large fraction of the voting shares of a company so as to influence its real investment or like decisions. One possible solution, raised in the debate regarding Bill S-31, is to restrict only public sector funds' ability to invest in the voting shares of a company, and to allow the funds to hold perhaps unlimited amounts of the firm's non-voting shares. Such an initiative might be viewed by many as implicitly sanctioning the use of non-voting or restricted voting shares. These shares also represent a potential solution to the (presumably) lesser concern regarding the adoption of a managerial role by private sector funds. Should the issuance of such shares be implicitly encouraged, perhaps by further restricting the ability of public sector funds to hold voting shares?

In response to what it terms the "proliferation" of restricted shares in recent years,[5] the influential Ontario Securities Commission (OSC) issued on 2 March 1984 an interim "Position Paper" in which the OSC proposed initiatives which would - in effect - discourage the use of such shares. The first initiative is to require that restricted shares - the OSC's term for shares with no voting rights or with voting rights that are subordinate to another class having greater voting rights - be required to have "coat-tail" provisions. The purpose of this initiative it to "protect" the holders of these shares in a manner analogous to the "protecting" of minority shareholders provided by the OSC's mandatory follow-up provisions. (Take-over bids must be accompanied by follow-up offers to minority shareholders if the common shares are acquired at a premium over their market price.) The

second initiative proposed by the OSC is to require minority approval of all capital reorganizations which lead to the creation of a class of restricted shares.

Before turning to an analysis of the first (and major) initiative, it is useful to review the discussion in chapter two. This analysis suggests that the OSC's extant policy with regard to follow-up provisions is misdirected if (1) take-over bids and the threat of take-over bids are an important disciplining tool of the marketplace, and (2) minority shareholders are observed, in any event, to be made no worse off in the event of an actual take-over. To the extent that "fair sharing" rules such as this limit potential gains to acquiring firms, the number of take-over bids may be reduced. If an acquiring firm cannot make an above-market offer for only a controlling block of shares, the take-over may not take place and the economic gains that would subsequently accrue to all shareholders of the target firm might not take place.

The economic argument for not discouraging the use of non-voting shares is succinctly stated. If new financial instruments are introduced or more widely used, and if they are appropriately priced, then the allocative efficiency of the capital market will be improved. Scientific evidence supports the proposition that capital markets in North America are efficient in their use of public information. Thus the presumption of received economic analysis is that restricted shares improve the allocative efficiency of the capital market. The onus is on those who would limit the use of restricted shares to provide empirical evidence that this received analysis is inappropriate.

Corporations issue restricted shares for one or more of the following reasons: (1) to raise additional equity capital in the least cost way without diluting their control; (2) to conform to regulations and/or incentives relevant to non-resident ownership; (3) to facilitate take-over bids, by making them less costly, when restricted shares carry no voluntary "coat-tail" provisions; and (4) to create a liquid market for at least one class of "residual equity".[6] As yet, no detailed study has been undertaken to determine the relative importance of these incentives, nor whether the acceleration in the issuance of such shares is likely to be a temporary or a permanent phenomenon.

The OSC expresses concern with the potential for abuse by majority shareholders implicit in the use of restricted shares. Because capital markets are informationally effficient, this concern is easily overstated. Bondholders, for example, use restrictive covenants to limit management's ability to act against their interest, and the residual risks to which bondholders remain exposed are internalized into the price of these securities. The presumption of received economic analysis is that the marketplace will determine the guarantees or preferences that holders of restricted shares require if they are to buy additional securities at a price that is not deemed by management to be prohibitively low. If holders of restricted shares desire to be protected from untoward management behaviour and/or to participate in any premium bid for control, then voluntary "coat-tail" or like provisions will appear as a market response. Such provisions may not be universal nor homogeneous, as market forces dictate.

The argument that holders of restricted shares need "protection" has at least two interpretations. The first is that the price of these securities may fail to reflect the fact that holders will not participate in any premium bid for control. In an informationally efficient capital market, this protection is unnecessary. The second is that acquiring firms, perhaps with the tacit approval of the target firm's management, will engage in asset stripping or like abuses.

There are three reasons why the need for protection in this second sense may be overstated. First, if holders of restricted shares have this concern, it will be reflected in the price of these securities. Secondly, there exist judical remedies linked to the fiduciary role of management for both the holders of restricted shares and minority shareholders who conclude that management has engaged in this type of abuse. Thirdly, preferred shareholders (as well as debtholders) have an interest in preventing asset stripping. Non-voting preferred shares, with their cumulative dividend provisions, are also at risk if asset stripping is perceived as a serious threat. Although restricted shares are residual claims, the holder of these securities may - to some extent - be able to free ride on the restrictive convenants imposed by preferred shareholders (if this class of claims also exists) and debtholders to protect their respective interests. The question also arises as to why corresponding concerns have not been expressed by the OSC regarding the protection of the interests of (non-voting) preferred shareholders. The presumption may be that the dividend preference accorded these shares, together with the restrictive covenants that have developed in order to protect their interests, are adequate. If so, the question again arises as to why a different

presumption exists with respect to restricted shares. In an informationally efficient capital market, this latter presumption is unwarranted.

In an informationally efficient capital market (and abstracting from liquidity considerations), the premium assigned by the market to common shares over restricted shares with the identical claim to dividends is due to a single factor. That is the opportunity for common shareholders to benefit from any subsequent take-over bid and premium to be paid for control. This point, which is not an argument for requiring "coat-tail" provisions for restricted shares, merits elaboration.

Minority shareholders receive none of the perks that majority shareholders, through management, might be able to extract. Minority shareholders are also vulnerable to asset stripping and like abuses by management. Yet it is minority shareholders who are likely to be the investors who at the margin must be induced to pay any premium commanded by the common over otherwise identical restricted shares. Minority shareholders thus differ from holders of restricted shares only in their potential to participate in any premium for control. Thus this potential must be the source of any price premium for common over restricted shares if minority shareholders are indeed the marginal investors.

To sum up, there has been considerable discussion in the financial press regarding the role of restricted shares, with the March 1984 "Position Paper" of the OSC serving as the catalyst. Yet most of the arguments against the use of restricted shares do not withstand close scrutiny. The question of whether public sector funds are to be more tightly restricted in their ability to hold voting shares, with greater or

unrestricted access to non-voting shares as the quid pro quo, is important. It should not be decided on the basis of erroneous arguments regarding the supposed limitations of non-voting shares.

5. Summary

The major issues raised in this chapter can be summarized in point form as follows:

(1) Bill S-31 was founded on the premise - never critically examined - that existing regulatory agencies and legal remedies are insufficient to protect the federal government's jurisdictional prerogatives concerning interprovincial transportation. It is not apparent to the present author why this premise was adopted, and this broader question is not examined in detail.

(2) If Bill S-31 or a like initiative is to disadvantage the beneficial owners of public sector funds, then it must do so by preventing these funds from holding efficiently diversified portfolios. The claim that a particular fund is so disadvantaged is readily examined. Unfortunately, most of the public debate on this issue has been somewhat misdirected, at least from the perspective of modern finance theory.

(3) In all likelihood, and especially if greater access to foreign securities is explicitly or implicitly sanctioned, limiting public sector funds to holding no more than 10%

of the shares of any company is not likely to impede the objective of efficient diversification.

(4) The impact of Bill S-31 or a like initiative on the companies whose shares are the target of the legislation is likely to be minimal, so long as these shares are actively traded. The cost of equity capital to these companies will continue to be determined by the degree of systematic risk of their shares.

(5) If a decision is made to limit the share holdings of a public sector fund to (say) 10% of the total outstanding, it does not logically follow that a tighter limit be placed on private sector funds as well. The key difference is that the possibility of non-wealth-maximizing behaviour, should the fund gain some measure of managerial influence, is far greater in the public sector. Indeed, if private pension managers were to shed their passive role, the end result might be to improve managerial efficiency by reducing the agency problem that arises because of the separation of ownership from control in the modern corporation.

(6) Current arguments against the use of non-voting or restricted voting shares do not withstand close scrutiny. The possibility of implicitly sanctioning their use by placing tighter restrictions only on public sector funds' holding of voting shares should not be discouraged on this account.

CHAPTER FIVE - Footnotes

1. The major provisions of the first draft of Bill S-31, as summarized by Allan Tupper, are as follows:

   (1) No provincial government can hold or beneficially own (through a trustee or other agent) more than 10% of the voting shares of any transportation company involved in interprovincial or international energy pipelines, railways, airlines, shipping, trucking, bus companies and commodity pipelines.

   (2) The legislation is not retroactive. It applies to voting share purchases on and after 3 November 1982. A provincial agency which already holds more than 10% of a private transportation company can continue to vote those shares. But if a provincial agency, which already holds more than 10% of a firm, increases its holdings, it loses the right to vote any of its shares.

   (3) If a provincial agency owns less than 10% of a company's shares and exceeds the 10% limit after 3 November, 1982, it will only be able to vote those shares held before 3 November.

   (4) Significantly, if a provincial agency acquires its holding after 3 November 1982, it cannot vote any of its shares. By this provision, the provinces are relegated to the role of passive investors.

See Allan Tupper, "Bill S-31 and the Federation of State Capitalism", Institute of Intergovernment Relations Discussion Paper, Queen's University, August 1983.

2. In addition, spokespersons for the federal government draw attention to the fact that the Bank Act, the Aeronautics Act, the 1972 cabinet broadcasting directive to the CRTC and the Teleglobe legislation have restricted provincial ownership in the federal fields of banking, airlines, broadcasting - apart from educational programming - and telecommunications.

3. Wendie Kerr, "Caisse fears bill may cost $100 million". The Globe and Mail, 18 November 1982.

4. Ibid.

5. Between 1979 and 1983, the number of companies on the Toronto Stock Exchange with listed restricted shares rose from 64 to 130, and aggregate market value of such shares rose from $4.57 billion to $12.32 billion. These figures are those reported by the OSC.

6. For mature firms that could pay the dividends required on (non-voting) preferred shares, the decision to issue restricted shares suggests - by revealed preference - that restricted shares are viewed by management as the less expensive source of equity capital at this time. For junior firms, which may lack the capacity to pay such dividends, the use of restricted shares may be the only way to raise external equity if the majority interests do not want to dilute their measure of control. In either case, if the majority

shareholders view the "no dilution" constraint as binding, the prohibition of - or increased difficulty in issuing - restricted shares will raise the marginal cost of capital to the corporation and ultimately reduce the real capital formation undertaken by it.

Certain issuers of restricted shares are motivated to do so because they are governed by statutes imposing mandatory restrictions on ownership or on the voting rights of non-residents. Others are so motivated because they wish to qualify for benefits under statutes where such benefits are available only if non-resident voting and/or ownership is restricted. Such incentives would appear to be relevant, for example, for firms in the broadcasting industry as well as for firms subject to the National Energy Policy. For firms who are dependent on foreign capital, concerns arising from the Foreign Investment Review Act may also be relevant.

If majority shareholders wish to facilitate take-over bids, they may wish to issue restricted shares without "coat-tail" provisions in light of Part XIX of the present Ontario Securities Act. If "coat-tail" provisions are included, then this motivation can presumably be ruled out. For firms which wish to facilitate take-over bids, and which are in a position to issue preferred shares, the latter might be the more attractive vehicle. This is because the preferred shareholders, with a fixed stream of promised dividends, do not participate in the higher earnings associated with the improved management of the corporation's assets (or other sources of gains) after a successful take-over bid.

Because stocks are more expensive to trade if they have a thin float, some firms may choose to issue restricted shares in sufficient volume to ensure a liquid market. Presumably, their concomitant desire to retain control prevents the development of a like market for the common. At times, restricted shares with identical claims to dividends have traded at a premium relative to common shares, and such premiums are presumably due to liquidity considerations.

CHAPTER SIX - Additional Policy Issues

The purpose of this chapter is to highlight three additional policy issues that are pertinent to the evaluation of the role of public sector investment funds. They are: (1) the design of a system to ensure that public sector pension funds, such as the CPP and/or QPP, do invest solely according to risk-return considerations if they accept this as their mandate; (2) the international diversification of pension fund investment portfolios; and (3) the application of (provincial) securities legislation to public sector investment funds.

1. Ensuring that Fiduciary Objectives are Pursued: the Case of the Canada Pension Plan

Overview

The Caisse de dépôt has both the traditional fiduciary objective and the goal of promoting the development of the province of Quebec. The AHSTF has the objective of strengthening and diversifying the economy of the province of Alberta, and traditional risk-return objectives are paramount only for the Commercial Investment Division. In short, both the Caisse de dépôt and the AHSTF have auxiliary objectives, although only the AHSTF publicly acknowledges the potential for conflict between these and the standard risk-return considerations.

Nonetheless, it is useful to consider the following question. If a public sector fund were established solely with a fiduciary objective, is it possible to ensure that the fund will in fact be invested in accordance with his mandate? This question arises most frequently in the context of the on-going debate regarding the degree of funding to be accorded the Canada Pension Plan (CPP). Those who

advocate at least partial funding for the CPP as presently structured, and significant funding for any enrichment to the benefit formula, do so for three reasons. First, higher contribution rates in the near future would lessen the need for sharply higher contribution rates later on and would thus promote intergenerational equity. In so doing, the higher contribution rates would increase the likelihood that future generations will honour the "rules of the game" established for the CPP. This is crucial if individuals are to engage in successful long-term planning for their retirement. Secondly, in spite of the fact that there is as yet no persuasive evidence that pay-go public pensions in Canada or the United States have in fact served to depress personal saving,[1] this possibility does exist. Particularly in the event of an enrichment in the CPP benefit formula, it would appear prudent to ensure a degree of funding for the CPP which would reduce the possibility of a negative impact on personal saving.[2] Thirdly, raising the contribution rate to the CPP is viewed as a means of highlighting to the present generation the actual cost of CPP benefits, to serve in turn as input into an informed political debate regarding the role to be accorded the CPP relative to private pension plans.

At present, a consensus appears to be emerging that favours a pay-go CPP. In large part, this is due to concern regarding how CPP funds would be invested in the event that a decision is made to increase the degree of funding. At present, surplus CPP funds are lent to the provinces of beneath-market rates of interest. Most economists view this as an unsatisfactory arrangement, and draw attention to the possibility of investing surplus CPP funds in the private sector. The

major concern is then whether the investment of such funds could ever be divorced from political considerations.

It is thus worthwhile to consider this problem. If the mandate of the QPP were changed to eliminate the development objective, as many critics argue should be done, the ensuing discussion would be relevant to the QPP as well. Before turning to a specific proposal, however, it is useful to review the salient issues surrounding the asset mix of the portfolio held by the CPP fund.

The Asset Mix of the CPP Fund: the Economic Issues

The problem of determining the net impact of a public sector fund on domestic saving reduces to the problem of identifying the behavioural response of both governments and individuals. There is reason to believe that the behavioural response of governments and individuals may depend on the asset mix of the CPP.

Suppose, for example, that the equivalent of a fully-funded CPP is introduced. If surplus CPP funds are invested in the private securities that individuals would otherwise hold in their personal portfolios, it is likely that - as a first approximation[3] - net personal saving will be unaffected. Saving in the form of CPP contributions would be accompanied by an equal decline in discretionary saving. There is no reason to expect that government spending or taxes would change, and the net impact on domestic saving would be a "wash".

Suppose instead this public pension plan is introduced, but all surplus funds are invested in provincial debt. If provincial governments' spending and tax policies are unaffected, then the

provinces' external debt will decline by the exact amount of bonds that the public fund acquires. Rational individuals will offset their increased pension saving with an equal reduction in discretionary saving. Again, there will be a "wash". Although the public pension fund holds only provincial debt, it will reduce the tax burden on future generations, and thus promote intergenerational equity in the manner described by advocates of a greater degree of funding for the CPP. This occurs in the form of the reduction in the external debt issued by the provinces. The repayment and servicing of this debt, of course, represents a liability of future provincial taxpayers. The provincial debt held in the public sector fund represents both an asset and a liability to plan members, who are also taxpayers.

Suppose that the pension fund is again invested exclusively in provincial debt, but that provincial governments respond by reducing taxes. In this case, the "fully funded" pension plan is analytically equivalent to a pay-go plan. If discretionary personal saving falls by the amount of the required pension contributions, then net personal saving is unaffected. There is, however, a decline in aggregate domestic saving that exactly equals the decline in saving by provincial governments.[4] Alternatively, one can note that the external debt - and hence the implicit tax liabilities of future residents - are unchanged. In spite of the formal existence of the public pension fund, there is no effective tax relief for the future generation of taxpayers. The intergenerational equity arguments cited by those who advocate a greater degree of funding for the CPP would cease to apply.

Most analysts agree, either implicitly or explicitly, that the likelihood of a reduction in government saving - and ultimately in domestic saving - is far greater if the CPP fund holds only provincial debt. For this reason, there is a strong case for linking a higher degree of funding for the CPP with the investment of surplus CPP funds in private sector securities. If these funds were invested solely in accordance with risk-return considerations, the end result would be to promote the efficient allocation of financial capital. If one were convinced that no procedure could be devised for so investing the surplus funds, then one might become - by default - an advocate for a pay-go CPP.

An Illustrative Solution

One possible solution, raised in the continuing debate regarding the investment activities of the Caisse de dépôt, is to divide the public sector fund into much smaller units and then hire private portfolio managers to invest the component funds. This solution leaves open the question of deciding the number (and thus size) of the component funds, as well as the problem of choosing the portfolio managers. To some critics, this approach is likely - in fact - to give rise to too much concentration of investment decision-making and thus leave open the possibility of political influence.

In general, the solution to the investment problem should have two ingredients. First, the public pension funds should be invested in a highly decentralized manner. This will pre-empt the possibility of politically-inspired investment behaviour. Secondly, the agents who manage the investments must be provided with a strong incentive

to act in the best interest of the beneficial owners of the fund. In economic jargon, the agency problem arising from the fact that the portfolio managers are not the beneficiaries of the fund must be addressed.

As noted, the obvious solution of simply dividing and separately managing the public pension fund may be viewed as unsatisfactory on the basis of the first criterion. A more subtle solution to the problem is as follows.

Many firms presently sponsor defined benefit pension plans. These same firms also collect CPP (or QPP) contributions from their employees, and make their own matching CPP contributions. These firms either manage their private pension funds directly or through an insurance arrangement. No one doubts that these funds are invested solely in response to risk-return considerations. The proposal is that, to the extent that annual CPP contributions are projected to exceed benefit payments, they remain with and be invested by the firms that collect them. For purposes of determining the realized rate of return on the CPP contributions held by the employers in each year, these funds would be co-mingled with the funds held in trust for the firm's own pension plan. If the annual return on this combined fund is 15%, then this will be the rate imputed to the CPP contributions held by the firm. The agency problem is solved by this co-mingling of CPP and private pension funds. A favourable investment performance on the firm's private pension fund serves, of course, either to reduce the firm's pension costs and/or to enable the firm to enrich benefits. For employers who do not sponsor private pension plans, as well as for

self-employed individuals, this route is not open. Yet this should not be an insurmountable problem. Such contributions could be used in the first instance to meet current CPP benefit payments and other expenditures. If, as seems unlikely, they were more than sufficient to meet these needs, they could - for example - be assigned to private portfolio managers or subsumed into a government-managed contingency fund. Presumably, plan sponsors or their fund managers would be paid the equivalent of a management fund.[5]

There are, of course, a number of design issues in this (or any other) proposal that require more detailed attention.[6] Yet the basic thrust of the proposal is straightforward and, in this author's view, merits attention. This is especially so if public opinion begins to shift in favour of the separation of fiduciary from development objectives for the Caisse de dépôt (or at least the funds managed by it on behalf of the QPP) or a greater degree of funding for the CPP.

2. The International Diversification of Pension Fund Investment Portfolios

Under current provisions of the Income Tax Act, registered pension plans in Canada must restrict their holdings of foreign securities to 10% of their assets or face severe tax penalties. This constraint is apparently under review by the federal government. It is directly relevant to a recurring theme in this study. This is the possibility of restricting in some way the equity investments of public sector - and perhaps private sector - funds in Canada. Any such restrictions draw attention to the possibility of opening up other

investment opportunities. Of particular interest are opportunities to invest in equities, given the evidence in Table 1 on the historical return to Canadian stocks versus alternative assets. United States data confirm the attractiveness of equities to investors who are well suited to bearing their commensurately higher risk.[8]

From the viewpoint of the beneficial owners of private pension funds, which may be the sponsoring firms and/or the plan members,[9] raising or eliminating this restriction is unambiguously attractive. By increasing the opportunities for efficient diversification, the risk-return tradeoff facing pension fund managers improves. Fund managers would be able to earn a higher expected return for a given amount of risk, or - equivalently - to bear a smaller amount of risk in order to earn a given expected return. Only if the exchange-adjusted return on a diversified portfolio of foreign stocks is perfectly correlated with the return on the market portfolio of Canadian stocks will no such improvement in the risk-return tradeoff occur. Such a possibility is quite remote.

How quantitatively important are the potential advantages to pension fund managers if this 10% ceiling is eliminated or raised significantly? Conceptually, the answer to this question is quite straightforward. One first calculates the efficient investment frontier if the fund manager is restricted by the 10% ceiling. This frontier depicts the portfolios which have the highest expected return for each level of risk or - equivalently - the lowest level of risk for each expected return. One then calculates the efficient investment frontier when this 10% restriction is removed. For each

level of risk, the expected return will be greater. For each level of expected return, the degree of risk will be smaller. Either of these serves as a measure of the gain to fund managers if the 10% restriction is removed.

In a recent paper, Nicholas Michas[10] employed this received methodology to try to provide an empirical perspective on this issue. His results, which should only be viewed as illustrative, suggest gains of the following order of magnitude. If the fund manager can hold only Canadian stocks, the efficiently diversified portfolio with an expected return of 21.5% has a standard deviation (the conventional measure of risk) of 31%. If the fund manager can hold up to 10% of his equity portfolio in foreign stocks, the efficiently diversified portfolio with this same expected return has a smaller standard deviation of about 28%. If there were no limit on the size of the foreign holdings, the efficient portfolio with this same expected return would have a standard deviation of only 22.3%. For a fund manager seeking this target rate of return on his equity portfolio, removal of the 10% ceiling would allow him to reduce his risk by 20%, as the standard deviation would fall from 28% to 22.3%.

The calculations performed by Michas must be viewed as preliminary, in part because he uses quarterly data for only the period 1976-1980 to construct the efficient portfolios. Nonetheless these calculations do suggest that the gains predicted by economic theory are likely to be quantitatively important. At present, foreign securities (most of which are equities) represent about 6% of the assets of pension plans in the private sector.[11] It would be inappropriate, however, to infer

from this statistic that individual pension funds are not being constrained by the 10% ceiling,[12] or that the aggregate holding of foreign securities would not increase if this limit were raised.

If the owners of pension fund assets would benefit from the removal or raising of the 10% limit, an obvious question follows. What arguments are used to justify its existence? The major economic argument would appear to be that its removal would occasion a sufficiently large rechanneling of domestic saving to foreign securities so as to raise the cost of debt and/or equity capital to Canadian firms. In turn, it might be argued, this will reduce the level of real capital formation in Canada.

In fact, the above concern is easily overstated. Because of the mobility of international capital flows, any redirection of Canadian savings abroad is likely to be offset by a corresponding increase in foreign saving available to Canadian firms. The increase - if any - in the cost of debt or equity capital faced by Canadian firms will be severely curtailed by the inflow of capital from abroad, as well as by the realignment of domestic saving held outside of pension funds.

In short, the potential gains to the beneficial owners of pension funds of raising or removing the 10% ceiling on foreign assets are likely to be significant. The cost to those seeking to raise debt or equity capital on the Canadian capital market is likely to be small, and probably negligible. The argument for the relaxation or the removal of this 10% ceiling is, on balance, quite persuasive.

3. The Extension of Securities Legislation to Public Sector Investment Funds

The Caisse de dépôt has argued that Crown corporations are not subject to federal and provincial company law and securities legislation unless they are explicitly included. Two specific episodes have focused attention on this question. First, the Caisse claimed that it did not have to file insider trading reports as required under the Canada Business Corporations Act and under the Ontario Securities Act. Secondly, the Ontario Securities Commission (OSC) maintained that the Caisse had not followed the disclosure and mandatory follow-up provisions required under the Ontario Securities Act in the wake of its acquisition of the shares of Domtar Inc. in the summer of 1981.

Clearly, jurisdictional issues are at the heart of this dispute, and these issues lie well beyond the scope of the present study. The more relevant question for the present study is whether economic arguments favour the extension of securities legislation to public sector investment funds. This question is further complicated if one is inclined to believe that not all of the relevant legislation can be justified by economic argument. The filing of insider trading reports is designed to disclose what <u>may</u> be useful information to capital market participants, and compliance costs are essentially zero. From an economic viewpoint, this legislation is not difficult to justify. The "fair sharing" concern that motivates the mandatory follow-up provisions of the OSC, on the other hand, is far more controversial. As noted in chapter two, these provisions <u>may</u> reduce the effectiveness of the takeover mechanism as a disciplinary tool of the marketplace.

Leaving aside this second question of the merits of the securities legislation, is there any reason to exempt public sector funds from their provisions? I think not. If the filing of insider trading reports is deemed to be of value of regulators and to capital market participants, there is no apparent rationale for exempting a particular class of investors. Similarly, if "fair sharing" concerns require that minority shareholders participate in any premium bid for control, there is no reason to exempt public sector funds from this requirement. To do so would be to provide the public sector funds with a cost advantage, since follow-up provisions increase the cost of takeovers to the acquiring firm.

Restrictions on the investments of private sector pension funds are largely based on the provisions of the Canadian and British Insurance Companies Act (Canada) or the Insurance Act of Quebec. To promote diversification, private pension funds are not permitted to invest more than 10% of their book value to any one company. Nor are these funds allowed to hold more than 30% of the common shares of any company. And so on. The merits of certain of these restrictions, including the 10% limit on foreign investments, may be controversial. Abstracting from their merits, however, there would appear to be no sound reason to exempt public sector pension funds from these provisions. Yet extending these provisions to public sector funds would not alleviate all of the concerns expressed by many participants in the present debate. At present, for example, the Caisse's own constitution prohibits it from holding more than 30% of the common shares or of a class of common shares of one company, and the AHSTF limits itself to 5%. Yet an

interest of 30% (or less) may be sufficient to exercise control, and there is no restriction imposed on private pension plans which prevents them from voting their shares.

In short, the crucial question remains. Is the public sector fund committed to investing solely according to risk-return considerations? Further, is this commitment viewed as credible by capital market participants and the public at large?

The use of public sector investments funds to achieve economic objectives other than the fiduciary interests of the beneficial owners is again the issue. As argued in chapter three, it is unlikely that a public sector fund can deliver subsidies if its activities are confined to the purchase or sale of publicly traded securities. From this perspective, it would seem that public sector funds are not a policy instrument that is well-suited to promoting economic development or like objectives. In general, economic analysis draws attention to the malallocation of real sources that occurs when governments seek to subsidize certain types of activities. In the case (for example) of a public sector fund which makes loans available to private firms at beneath-market rates, there exists the possibility that the real investment spending of these firms will be largely unaffected. So long as these firms have to raise their marginal funds at full market rates, it is the cost of these funds that will determine the amount of real investment spending. The subsidized interest rates might simply represent windfall gains to the owners of the private firms.

If the real resource costs of subsidizing certain types of activities are to be willingly borne, it is likely that they can be better addressed through tax or other initiatives. This quite broad issue extends well beyond the scope of the present study.

4. Summary

The major issues analyzed in this chapter can be summarized in point form as follows.

(1) If the decision is made to invest surplus CPP funds solely in accordance with risk-return considerations, there remains the problem of determining how this is to be done. An illustrative proposal for investing surplus CPP funds is sketched. The essence of the proposal is that surplus CPP funds would be managed by many of the private sector employers who already collect contributions on its behalf. The major argument against a higher degree of funding for the CPP is the difficulty in decentralizing investment decision-making, in light of the recognition that surplus CPP funds are better invested in private securities than in provincial government debt.

(2) If the 10% restriction on the investment of registered pension funds in foreign securities were raised or eliminated, the beneficial owners of these funds would earn a higher expected return for a given level of risk or - equivalently - bear a lower degree of risk in order to earn a given expected return. These gains are likely to be quantitatively important. There would appear to be a persuasive case for such a change, since international

capital flows should insulate domestic real investment from any redirection of pension fund assets that might accompany the change. If the investment in the shares of Canadian companies by public (or private) sector funds were restricted, the sanctioning of additional investment in foreign securities is elevated in importance.

(3) The present debate, occasioned by the activities of the Caisse de dépôt, regarding the extension of securities legislation to public sector funds centers on jurisdictional issues. Leaving these aside, as well as the merits of the extant securities legislation, there would appear to be no economic reason for exempting public sector funds. There would appear to be no reason for not extending the restrictions on the investments of private pension plans to public sector funds. Even if this were done, however, the crucial question would remain unanswered. Can public sector funds commit credibly to investing solely in accordance with risk-return considerations?

(4) The ability of a public sector fund to subsidize the real investment activities of private firms is severely limited if the fund is limited to buying or selling publicly traded securities. Even direct loans at beneath-market rates to private firms, loans which do not go through the capital market, may have a relatively small impact on their real investment spending. Economic analysis traditionally draws attention to the real resource costs associated with subsidized activities. It seems likely that tax or other instruments are a better way

to promote development or like objectives, especially if the public sector fund is constrained to acquire only actively traded securities. To analyze fully this final question is to assess the relative merits of tax, expenditure and other policy instruments, which is well beyond the scope of the present study.

CHAPTER SIX - Footnotes

1. For a review of this controversial evidence, much of which pertains to the impact of pay-go social security in the United States, see Gregory V. Jump, "Finaincing Public Pensions: Some Capital Market Implications" in D.W. Conklin et. al., editors, Pensions Today and Tomorrow: Background Studies (Toronto: Ontario Economic Council, 1984). At the theoretical level, the debate focuses in large part on the extent to which individuals have a bequest motive. If they do, they can "undo" the inter-generational wealth transfers implicit in a pay-go public pension plan by appropriately altering their bequests. If so, the pay-go plan is not likely to depress personal saving.

2. Because of the relatively small size of the Canadian economy and its integration with international capital markets, a reduction in aggregate saving by Canadians is not likely to produce a corresponding decline in real capital formation. Instead, any reduction in domestic saving is likely to be largely offset by an increase in foreign saving in the form of net capital inflows. However, the smaller is the amount that Canadians save, the lower will be the future incomes of Canadians. Any net increase in foreign saving also raises the importance of foreign ownership, which is viewed by some as unattractive.

3. The presence of liquidity-constrained households, whose consumption therefore declines when the CPP is introduced and contributions are thus required, could lead to a net increase in personal saving.

4. If individuals are "ultra rational", they might respond by maintaining their level of descretionary saving, to offset the tax reduction - and hence the decline in saving - by their provincial governments. All analyses such as that sketched in the text depend on the behavioural assumptions assigned to economic agents (such as the presence or absence of a bequest motive, and the present or absence of liquidity constraints on their consumption spending) and their degree of rationality.

5. This proposal is similar in spirit to the one discussed by Jump (1984), op. cit. only in that CPP funds remain with the employers that collect them.

6. If mandatory inflation protection, equal to at least 60% of movements in the consumer price index (as recently proposed by the Province of Ontario) is introduced, plan sponsors may wish to earmark that portion of their fund that exists with respect to retired or terminated workers for investment in short-term debt instruments. These securities provide a return which most closely tracks the rate of inflation, as noted by Pesando and Rea, op. cit. and others. It is not clear that they would provide an attractive outlet in the present context, at least if the funds collected on behalf of the CPP are to remain invested for a substantial period of time.

7. Those who advocate a significant enrichment to the benefit formula of the CPP, such as the Canadian Labour Congress, also prefer a pay-go plan. This would appear, in this author's view, to reflect the desire to redistribute wealth to the present generation of older workers.

8. During the period 1953-1979, for example, mean real returns and their standard deviations for United States Treasury Bills, 20-year bonds and stocks were as follows:

	Mean	Standard Deviation
Bills	0.43	1.46
Bonds	-0.87	6.86
Stocks	7.08	19.46

These data are drawn from Z. Bodie, "Investment Strategy in an Inflationary Climate", presented at the National Bureau of Economic Research Conference on the Changing Role of Debt and Equity in Financing U.S. Capital Formation, Colonial Williamsburg, Virginia, 2-3 April, 1981.

9. For a defined benefit plan which is sufficiently well funded to ensure that contractual pension benefits will be met, the shareholders of the sponsoring firm are the beneficial owners of the fund. If the plan is not so well funded, a literal interpretation of the pension contract - which limits the obligation of the sponsor to the lesser of the contractual benefits or the assets in the pension fund - would make the plan members the beneficial owners. This simple dichotomy is complicated, however, by the apparent willingness of firms to use inflation-augmented investment earnings to grant cost-of-living adjustments to retired workers and other evidence that the literal interpretation of the pension contract may be too restrictive. See, for example, James E. Pesando, "On Employee Valuation of Pension Claims and the Impact of Indexing Initiatives", Economic Inquiry XXII: No. 1 (January 1984): 1-17.

10. Nicholas A. Michas, "Pension Funds: More Diversification", Canadian Public Policy X: No. 1 (March 1984): 47-53.

11. Statistics Canada, Trusteed Pension Plans Financial Statistics 1979, page 45.

12. As of 31 December 1983, for example, OMERS held foreign stocks equal to 9.2% of its total investment fund, and 13.1% of its total market fund. Mutual fund holdings constitute about 35% of the investment in U.S. stocks.

Table 1

Real Rates of Return in Canada 1953-1980, Bills, Bonds and Stocks

Year	91-day Treasury Bills	Long-term Canada Bonds	Common Stocks	Inflation (C.P.I.)
1953	1.71	3.61	2.72	0.0
1954	0.83	9.20	38.46	0.60
1955	1.32	-0.61	27.32	0.30
1956	0.17	-6.45	8.90	3.10
1957	1.58	4.08	-22.37	2.15
1958	-0.26	-8.17	28.16	2.52
1959	3.39	-5.84	3.04	1.37
1960	1.83	5.56	0.33	1.35
1961	2.68	9.48	32.41	0.13
1962	2.42	1.42	-8.70	1.59
1963	1.70	2.66	13.50	1.83
1964	1.79	4.48	22.96	1.93
1965	1.05	-1.87	3.57	2.90
1966	1.39	-1.92	-10.28	3.55
1967	0.48	-5.99	13.32	4.14
1968	2.09	-4.37	17.53	4.09
1969	2.50	-6.47	-5.29	4.58
1970	4.46	19.67	-5.01	1.46
1971	-1.41	5.98	2.84	5.04
1972	-1.46	-3.76	21.14	5.09
1973	-3.34	-6.78	-8.70	9.12
1974	-4.13	-12.48	-34.76	12.46
1975	-1.91	-6.09	9.31	9.48
1976	2.88	11.99	4.82	5.82
1977	-1.98	-3.32	0.43	9.50
1978	0.23	-6.56	19.25	8.43
1979	1.76	-11.14	31.64	9.76
1980	1.42	-8.22	16.83	11.21
Mean (arithmetic)	0.82	-0.78	7.97	4.41
Standard Deviation	2.02	7.60	17.02	3.67
Correlation Coefficients	(1)	(2)	(3)	(4)
(1) Bills	-	.526	.216	-.623
(2) Canada's		-	.048	-.599
(3) Stocks			-	-.226
(4) Inflation				-

Notes: Data are drawn from C.G. Carlton, D.D. Ezra and K.P. Sharp, "Canadian Investment Returns and Other Economic Statistics, 1926-1980", where details regarding the calculation of the individual series may be found. The annual data are averages of monthly or quarterly data.

TABLE 2

ASSETS UNDER MANAGEMENT OF THE CAISSE DE DÉPÔT: 1973-1982

($ MILLIONS, BOOK VALUE)

YEAR	QPP	CARR	RAAQ	CSST	OTHER	TOTAL
1973	2,438	7	-	228	279	2,951
1974	2,886	44	_	267	361	3,558
1975	3,393	133	-	415	585	5,321
1976	4,009	312	-	312	468	4,305
1977	4,617	572	-	539	767	6,494
1978	5,272	830	278	726	882	7,988
1979	5,991	1,166	556	955	1,085	9,754
1980	6,858	1,558	873	1,222	1,236	11,747
1981	7,758	2,035	1,184	1,446	1,492	13,915
1982	8,648	2,582	1,581	1,684	1,745	16,240

NOTES:

QPP: QUEBEC PENSION PLAN (REGIE DES RENTES DU QUEBEC)

CARR: COMMISSION ADMINISTRATIVE DU REGIME DE RETRAITE

RAAQ: REGIE DE L'ASSURANCE - AUTOMOBILE DU QUEBEC

CSST: COMMISSION DE LA SANTE' ET DE LA SECURITE' DU TRAVAIL

TABLE 3

NET DEPOSITS TO THE CAISSE DE DÉPÔT: 1973-1982

($ MILLIONS)

YEAR	QPP	CARR	RAAQ	CSST	OTHER	TOTAL
1973	244	7	-	25	12	774
1974	241	35	-	23	49	816
1975	254	81	-	22	87	894
1976	299	140	-	73	84	1,102
1977	236	209	-	83	75	910
1978	212	182	262	132	69	1,367
1979	181	222	233	150	54	1,250
1980	214	259	241	158	29	1,170
1981	133	295	193	74	31	857
1982	1	311	233	88	14	686

NOTES:

QPP: QUEBEC PENSION PLAN (REGIE DES RENTES DU QUEBEC)

CARR: COMMISSION ADMINISTRATIVE DU REGIME DE RETRAITE

RAAQ: REGIE DE L'ASSURANCE - AUTOMOBILE DU QUEBEC

CSST: COMMISSION DE LA SANTE' ET DE LA SECURITE' DU TRAVAIL

TABLE 4

PROJECTIONS OF GROWTH OF QPP FUND AND PORTFOLIO OF CAISSE DE DEPOT
(MILLION OF $ 1983)

YEAR	QPP	CARR	RAAQ	CSST	OTHER	TOTAL
			Low Growth Scenario[a]			
1983[b]	9,395	3,128	1,740	1,869	1,275	17,409
1984	9,617	3,544	1,940	1,914	1,306	18,305
1985	9,798	3,979	2,120	1,979	1,340	19,216
1986	9,877	4,733	2,335	2,059	1,430	20,434
1990	9,064	7,749	3,180	2,560	1,790	24,343
1995	7,450	11,518	4,479	3,408	2,240	29,095
2000	8,602	15,288	5,977	4,255	2,690	36,812
2005	10,596	19,058	7,475	5,103	3,140	45,352
2010	12,375	22,829	8,973	5,950	3,591	54,716
2016	17,888	27,351	10,771	6,459	4,131	66,600
			High Growth Scenario[a]			
1983[b]	9,394	3,128	1,740	1,869	1,275	17,406
1984	9,906	3,544	1,924	1,914	1,306	18,594
1985	10,523	3,979	2,120	1,979	1,340	19,941
1986	12,436	5,584	2,335	2,059	1,430	23,844
1990	20,090	12,004	3,180	2,560	1,790	39,624
1995	29,656	20,028	4,479	3,408	2,240	59,811
2000	39,223	28,053	5,977	4,255	2,690	80,198
2005	48,780	36,077	7,475	5,103	3,140	100,585
2010	58,357	44,102	8,973	5,950	3,591	120,973
2016	69,837	53,731	10,771	6,459	4,131	144,929

SOURCE: Yves Guerard,"Evolution et perspectives futures", in Claude B. Forget, La Caisse de Depot et placement du Quebec (Montreal: C.D. Howe Institute, 1984), p.551

NOTES: a-See Guerard for the details of the assumptions underlying the two scenarios.

b-These projections were made prior to the availability of the 1983 data.

Table 5

Investments of the Caisse de Depot, 31 December 1975 to 31 December 1983

Investment (% of detail)	Year 1975	1976	1977	1978	1979
Bonds					
Gov't of Quebec	45.5	47.3	47.5	47.4	50.1
Gov't of Canada	2.0	4.2	2.0	2.9	4.4
Corporate	10.2	10.2	9.4	8.7	9.9
Other	12.2	10.1	12.4	10.4	9.2
Stocks	17.1	15.8	13.4	11.8	11.6
Mortgages	7.1	7.1	7.9	8.3	8.9
Real Estate	0.6	0.5	0.4	0.3	0.3
Short-term	5.3	5.2	6.9	10.2	5.6
	100.0	100.0	100.0	100.0	100.0

Investment (% of detail)	1980	1981	1982	1983
Bonds				
Gov't of Quebec	53.4	52.9	52.5	51.9
Gov't of Canada	5.4	3.2	2.6	2.9
Corporate	8.4	6.5	4.7	2.9
Other	8.5	8.3	2.8	9.6
Stocks	13.0	17.0	17.4	20.0
Mortgages	8.3	8.1	6.8	6.6
Real Estate	0.3	0.4	1.2	1.5
Short-term	2.7	3.6	7.3	4.6
	100.0	100.0	100.0	100.0

Notes: Historical data, at book value, are drawn from Table 16 of 1983 Annual Report of Caisse de Depot et Placement du Quebec.

TABLE 6

Realized Rates of Return on the Investment Fund of the Caisse de Dépôt

Caisse de Dépôt	1982	1975 - 1982
Entire Fund	34.5	11.6
Segregated Fund - Bonds	43.9	11.5
Segregated Fund - Gov't Bonds	42.0	-
Segregated Fund - Stocks	15.7	16.2
Segregated Fund - Mortgages	28.6	-
TSE 300 Index	5.5	17.8
MYW 50 Bond Index	46.3	10.2
MYW Mortgage Index	28.2	11.4

Source: 1982 Annual Report of the Caisse de dépôt.

TABLE 7

Investment Divisions of the Alberta Heritage Savings Trust Fund

Division	Legislative Criteria for Investments	Limitations/ Nature of Investments	Assets, 31 March '84 ($millions)[a]
Capital Projects Division	Provide long term economic or social benefits to the people of Alberta. Projects may not necessarily by their nature yield a return.	The Division is limited to 20 per cent of the Fund's assets. Investments include capital and research projects, endowment funds and a debenture of Vencap Equities Alberta Ltd. Amounts expended on projects are deemed to be assets of the Fund.	$2,135
Alberta Investment Division	Strengthen or diversify the economy of Alberta. Yield a reasonable return or profit.	Investments may be in the form of debt or equity. There is no limitation on the size of the Division.	$8,079
Commercial Investment Division	Yield a commercial return or profit.	A wide range of securities including common stocks are permitted.	$199[b]
Canada Investment Division	Make loans to other provincial governments and their agencies. Yield a reasonable return or profit.	The Division is limited to 20 per cent of the Fund's assets. Lending activity was suspended in March, 1982.	$1,896
Energy Investment Division	Facilitate the development, processing or transportation of energy resources within Canada. Yield a reasonable return or profit.	Investments may be in the form of debt or equity. There is no limitation on the size of the Division. No new investments made in 1983-84.	$25
Deposits and Marketable Securities (Section 10)	Invest funds not immediately required for other divisions.	Short-term money market securities and marketable bonds.	$920

Source: Alberta Heritage Savings Trust Fund, Annual Report 1983-84.

Notes: [a] Asset values are reported on a cost basis.

[b] The market value of this portfolio equalled $275 million.

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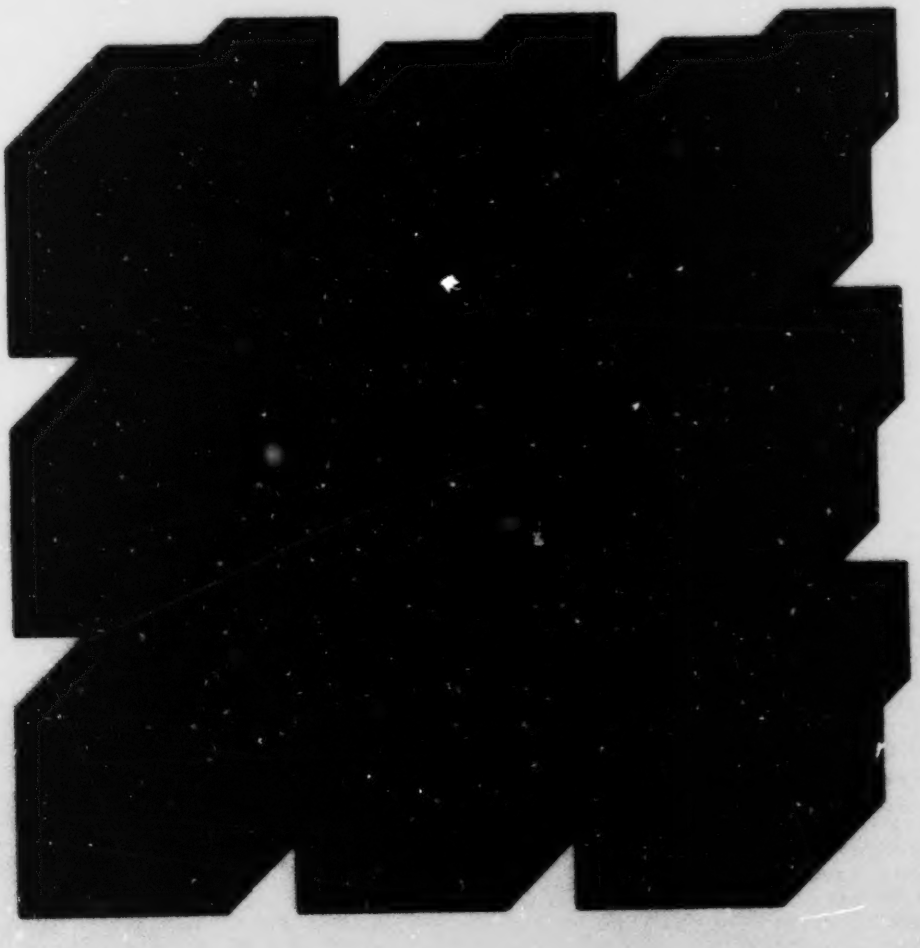

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DISCUSSION PAPER NO. 277

An Economic Analysis of Government Investment Corporations, with Attention to the Caisse de Dépôt et Placement du Québec and the Alberta Heritage Fund

by James E. Pesando

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UNE ANALYSE ÉCONOMIQUE DES SOCIÉTÉS PUBLIQUES DE PLACEMENT, PARTICULIÈREMENT DE LA CAISSE DE DÉPÔT ET PLACEMENT DU QUÉBEC ET DU FONDS DU PATRIMOINE DE L'ALBERTA

RÉSUMÉ

Les gestionnaires de fonds de placement privés ne se préoccupent que d'opérations ou transactions impliquant un arbitrage risque-rendement. Ceux qui sont responsables de la gestion d'organismes publics de placement peuvent avoir à tenir compte d'objectifs accessoires, tels que le développement de l'économie de leur province. Si ces derniers organismes acquièrent des actions, il est important alors de déterminer : (1) si les buts accessoires ne viendront pas en conflit avec les objectifs traditionnels liés au risque et au rendement; (2) comment les parties intéressées - c'est-à-dire les souscripteurs aux fonds qui en touchent l'usufruit, ainsi que les actionnaires minoritaires - réagiront dans l'éventualité d'un tel conflit, et (3) si l'efficacité globale du marché des capitaux risque d'en souffrir. C'est à l'analyse de ces questions que ce document est consacré.

L'analyse se fonde sur deux principales conclusions de la théorie financière moderne : premièment, les marchés financiers utilisent efficacement les renseignements mis à la disposition du public; deuxièmement, les investisseurs ne

sont dédommagés que lorsqu'ils sont confrontés à des risques non diversifiables ou qui continuent de subsister même lorsqu'ils sont titulaires d'un portefeuille diversifié. Si les organismes publics de placement acquièrent un certain contrôle sur les entreprises dans lesquelles ils investissent, sans que cette acquisition soit exclusivement motivée par des considérations de risque et de rendement, il s'ensuivra un accroissement des risques non diversifiables sur le marché et une hausse du coût du capital-actions pour les entreprises éventuellement concernées.

La Caisse de dépôt et placement du Québec a le mandat, entre autres choses, de promouvoir le développement économique de la province. Il est difficile d'établir de façon empirique dans quelle mesure celui-ci peut être en conflit avec l'objectif naturel qui lui incombe en tant que fiduciaire. L'analyse économique montre qu'il peut en être ainsi en partie parce que l'activité de la Caisse consiste surtout, à cet égard, à acheter et vendre des actions de grandes entreprises pouvant trouver des fonds sur des marchés financiers qui fonctionnent bien. Pour sa part, et en ce qui a trait à la gestion de son portefeuille d'actions, le Fonds du patrimoine de l'Alberta est, à l'inverse de la Caisse de dépôt, un investisseur purement passif. Ce Fonds reconnaît d'ailleurs que les objectifs de développement qu'il poursuit par le biais de ses autres investissements peuvent être conflictuels avec les objectifs traditionnels fondés sur le risque et le rendement.

L'étude évalue le bien-fondé du projet de loi n° 31 ainsi que son incidence, et examine d'autres questions de réglementation à la lumière du rôle des fonds de placement publics.

AN ECONOMIC ANALYSIS OF GOVERNMENT INVESTMENT CORPORATIONS, WITH ATTENTION TO THE CAISSE DE DÉPÔT ET PLACEMENT DU QUÉBEC AND THE ALBERTA HERITAGE FUND

ABSTRACT

Managers of private investment funds concern themselves exclusively with the risk-return tradeoffs available in the capital market. Managers of public sector funds may have auxiliary objectives related to the development of their provincial economies. If public sector funds invest in equities, it is important to determine (1) whether these auxiliary objectives are likely to conflict with conventional risk-return objectives, (2) how interested parties, the beneficial owners of the fund and minority shareholders, will be affected if such conflict exists, and (3) if the overall efficiency of the capital market is likely to be impaired. These are the objectives of the present study.

The analysis draws upon two key results from modern finance theory. The first is that capital markets are efficient in their use of publicly available information. The second is that investors are compensated for bearing only nondiversifiable risk, or risk that still exists when investors hold well-diversified portfolios. If public sector funds obtain some measure of corporate control but are not

motivated exclusively by risk-return considerations, the result will be to increase the nondiversifiable risk in the marketplace and to raise the cost of equity capital to potential target firms.

The mandate of the Caisse de dépôt involves the objective of promoting the economic development of the province of Quebec. It is difficult to establish empirically whether pursuit of this goal has conflicted with the standard fiduciary objective. Economic analysis suggests that such a conflict may well exist. In part, this is because the Caisse's activities are concentrated in the purchase and sale of the shares of large firms which <u>are</u> able to raise funds on well-functioning capital markets. In managing its equity portfolio, the Alberta Heritage Fund - unlike the Caisse - remains a purely passive investor. The Fund acknowledges that the development objectives of its other investments may conflict with traditional risk-return objectives.

The study evaluates the rationale for and impact of Bill S-31, together with other regulatory issues pertinent to the role of public sector funds.

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CHAPTER ONE - Introduction

1. The Rationale for this Study

Managers of private investment funds presumably concern themselves exclusively with the risk-return tradeoffs available in the capital market. Their sole objective is to maximize the return on their funds for a given level of risk or, equivalently, to minimize risk for a target level of expected return. Managers of public sector investment funds, such as the Caisse de Dépôt and the Alberta Heritage Fund, may have "auxiliary" objectives related to the development of their provincial economies. If these auxiliary objectives are reflected in the equity investments of the public sector funds, a number of important issues immediately arise:

(1) Are these auxiliary objectives likely to conflict with conventional risk-return objectives?

(2) If public sector funds acquire a controlling or influential interest in a firm, how will this affect:
   (i) the minority shareholders in the firm?
   (ii) the ultimate beneficiaries of the public sector fund?
   (iii) the efficiency of the capital market and, ultimately, the allocation of real resources?

(3) Should there be constraints, perhaps akin to those embodied in Bill S-31, imposed on the equity investments of public sector funds?

(4) If constraints akin to (3) above are imposed on public sector investment funds, how will these affect:
   (i) the ability of public sector funds to pursue risk-return objectives?

(ii) the cost of equity capital for the firms whose shares can no longer be held without restriction by public sector investment funds?

The general set of concerns has been highlighted by the controversy surrounding Bill S-31, which would limit to 10 percent any provincial government or government agency's holding in companies involved in inter-provincial or international transportation. Although this legislation has been withdrawn, it nonetheless highlights an important set of analytical issues. Predictably, this legislation was opposed by the Quebec Government on the grounds that it would inhibit the investment of funds by the Caisse de Dépôt. Whether the constraint on the amount of funds that can be invested by a fund in the shares of a particular firm in fact compromise the risk-return objectives of the fund, and whether the particular firm experiences an increase in its cost of equity capital as a result, are very important questions. In similar spirit, the purchase in 1981 of controlling interest in Domtar Inc. by the Caisse and the Societé generale de financement du Québec focuses attention on both the rights of minority shareholders and the question of whether public sector funds should be bound by provincial securities laws.

2. The Organization of this Study

In Chapter Two, the perspective of modern finance theory on the question of the equity investment of public sector funds is reviewed. At the most basic level, a central question is whether a public sector investment fund ought to be purchasing common stocks, assuming that its exclusive concern is with risk-return objectives. More generally, the literature on efficient capital markets provides a crucial perspective which appears to be absent in most discussions of the relevant policy issues.

In Chapters Three and Four, the two major case studies - the Caisse de Dépôt and the Alberta Heritage Fund - are examined. The primary and auxiliary objectives for establishing each of these funds are reviewed. The implications for the affected parties if these funds are not exclusively pursue risk-return objectives are examined, and the lessons that can (and cannot) be extracted from past investment performance are established. Bill S-31, as a topical and (perhaps) illustrative policy option, is examined in Chapter Five. A summary chapter which focuses on additional policy issues completes the study. This chapter considers, for example, whether it is possible to manage a large public sector fund so as to ensure that the exclusive concern is with risk-return objectives. This chapter also provides a final perspective on whether any "auxiliary" objectives associated with existing funds might be more effectively addressed through alternative policy instruments.

CHAPTER TWO - The Perspective on the Equity Investments of Public Sector Funds Provided by Modern Finance Theory

There are well-established theoretical and empirical results from the finance literature which bear on the issues raised in the first chapter of this study. These results are perhaps unfamiliar to many participants in the present debate, and are usefully reviewed at this time. The pertinent items are:

(1) historical data on the returns to equities and fixed-income securities, which suggest that public sector funds ought to include common stocks in their investment portfolios;

(2) the informational efficiency of capital markets, which casts doubt upon the claim that astute fund managers can earn superior returns and suggests that conventional rankings of fund performances may be of quite limited usefulness;

(3) the evidence that private takeovers have created net economic gains and hence that acquiring firms have had wealth-maximization objectives, which raises the question of whether public sector funds have like objectives; and

(4) social investing as a fund objective, which considers the question of whether a fund required to include or to exclude shares in a particular firm or firms will suffer adverse investment consequences.

Each is discussed in turn.

1. Historical Data on Returns to Equities and Fixed-Income Securities

Annual data on the real returns to 91-day Treasury Bills, long-term Government of Canada bonds and common stocks for the period 1953-1980 are presented in Table 1. The means, standard deviations and correlation coefficients are also presented, as is the annual rate of inflation as measured by the consumer price index. The sample period was chosen to avoid periods of deflation, which occurred last in Canada in 1952. Because nominal interest rates are bounded below by zero (and must generally exceed zero in the presence of positive transactions costs), the ability of nominal interest rates to embody an appropriate inflation premium is not symmetric with respect to periods of anticipated inflation and anticipated deflation.

There is no attempt to isolate the impact of anticipated as distinct from unanticipated inflation on real returns. The data as presented presume that the market prices the alternative assets to yield equilibrium ex ante real returns, and that unanticipated inflation is simply one of a myriad of sources of new information which can cause realized to depart from ex ante returns. For fixed-income securities, especially if unanticipated inflation conveys information regarding the permanent or long-run rate of inflation, this particular source of new information is - of course - likely to be of paramount importance.

Data such as those presented in Table 1 are typically interpreted in the following way. Assume that (1) capital markets are efficient, so that realized returns equal expected returns plus a random error term; (2) the sample period is sufficiently long to ensure that the net value of these error terms - which represent unanticipated returns - is zero, and (3) expected or equilibrium real returns are constant over time. Then the means of the ex post returns are adequate proxies for the (unobservable) expected or equilibrium returns. The fact that the mean real return on long-term Canada bonds is negative suggests that assumption (2) is likely to be violated. The results in Table 1 nonetheless suggest the following;

(1) common stocks, because of their greater risk, provide by far the highest expected or equilibrium returns; and

(2) an investor with a long-term horizon, who is well-suited to bearing risk, ought to invest a significant fraction of his portfolio in common stocks.

If one were to assume that the equilibrium real return on long-term Canada bonds is (say) 3 percent, then the compensation for the

additional risk of holding common stocks would appear to be in the order of 3½ percent.[1] If the risk premium accorded common stocks in North American capital markets has increased, as some observers maintain, the equilibrium real return on stocks may be higher than that suggested by the historical data.[2]

Since the public sector investment fund is tax sheltered, there is one argument against holding common stocks. Common stocks are a tax-advantaged asset relative to bonds, due to the dividend tax credit, the lower tax rate on capital gains (and the potential to defer such taxes), and now the Indexed Security Investment Plan (ISIP). To the extent that after-tax, risk-adjusted returns on alternative assets are equalized by the market, there is an incentive for tax-free investors to hold the most tax-disadvantaged assets. Trusteed pension plans, whose investment earnings are also exempt from tax, do hold a significant portion of their assets in common stocks.[3] If this behaviour is rational, one can infer that common stocks are included in pension plan portfolios in order to achieve a desired degree of risk (and thus of expected returns) that cannot be obtained by holding only fixed-income securities. A like argument can then be used to justify the decision by public sector funds to hold common stocks in their portfolios.[4]

2. The Efficiency of the Capital Market and the Opportunity of Investors to Earn "Abnormal" Returns

If capital markets are informationally efficient, then actual investment returns will be distributed randomly around expected or equilibrium returns. Let $\tilde{R}_t$ denote the realized return on an asset (or portfolio of assets) in period t, let $E(\tilde{R}_t|\phi_{t-1})$ represent the

expected or equilibrium return on the asset conditional upon all known information (ϕ_{t-1}) at time t-1, and let $\tilde{\varepsilon}_t$ denote the deviation of the actual from the equilibrium return in period t. By definition:

$$\tilde{\varepsilon}_t = \tilde{R}_t - E(\tilde{R}_t|\phi_{t-1}) \tag{2.1}$$

If capital markets are efficient, then:

$$E(\tilde{\varepsilon}_t|\phi_{t-1}) = 0 \tag{2.2}$$

In words, the expected value of the deviation between the actual and the equilibrium return, conditional upon all known information, is zero. These deviations, in the finance jargon, represent "abnormal" returns. The implications is that no investor can systematically "beat the market" if the capital market is efficient. He cannot expect a return on an asset (or portfolio of assets) in excess of that associated with the inherent risk of the asset (or portfolio of assets). The greater the degree of systematic or nondiversifiable risk of any asset, the greater will be its equilibrium return as determined by the market.[5] Hence the greater will be its realized return <u>on average</u>, since the <u>average</u> value of the abnormal return will be zero.

In fact, textbooks usually distinguish among three types of market efficiency. Under <u>weak-form</u> efficiency, stock prices fully reflect all information contained in past prices and hence no investor can earn abnormal returns based on this information. Under semi-strong efficiency, stock prices fully reflect all <u>public</u> information, and hence no investor can earn abnormal returns on the basis of such publicly available information as the firm's earnings, dividend payouts, macroeconomic

forecasts and so forth. Under strong form efficiency, stock prices fully reflect all information, including insider information.

In the view of the present author and the vast majority of academic economists, the available empirical evidence supports both the weak-form and the semi-strong form of the efficient markets hypothesis. By contrast, available evidence does not support the strong form of this hypothesis.[6] If one accepts these empirical conclusions, the following propositions follow:

(1) no investor, except one who has access to inside information, can earn abnormal or risk-adjusted "excess" returns;

(2) the ex ante and, on average, the ex post return on a stock portfolio will be an increasing function of its risk, and the fundamental choice of the portfolio manager is to choose and to maintain the desired degree of risk;

(3) a prudent investor will hold a diversified portfolio of common stocks, so as to shed the unsystematic or diversifiable risk for which the market does not compensate the investor.[7]

Note that (1) rules out two possibilities. The first is that a fund manager will be able to identify stocks which are undervalued or overvalued relative to the market as a whole. The second is that a fund manager will be able to identify when the market as a whole is overvalued or undervalued, and time his movements into and out of the market accordingly.

Many participants in the financial community, and especially professional portfolio managers, may disagree with these propositions. Yet the vast majority of scientific evidence clearly supports them.

There are, however, subtle theoretical arguments which lend some credence to those who implicitly challenge the claim that capital markets are efficient,[8] and some empirical studies do identify possible departures from the semi-strong form of the efficient markets hypothesis.[9]

The hypothesis that capital markets are efficient in the semi-strong form, when combined with received models of how equilibrium returns are established, has a key implication. This has to do with the way to evaluate the performances of investment funds. Many members of the investment community monitor rankings of investment funds based exclusively on the returns earned by the funds over a particular period of time, or over a succession of such periods. One implication of the semi-strong form of the efficient market hypothesis is that no fund manager can earn abnormal or "excess" returns, at least on the basis of public information. In addition, the hypothesis that expected or equilibrium returns are higher, the greater is the risk of the portfolio, implies that these traditional rankings provide little useful information, even if one is willing to entertain the possibility that fund managers have differential access to inside information.

This is because there is no allowance in these rankings for the degree of risk borne by the investment fund. Note simply that if one fund continuously holds a very risky portfolio, then on average this fund's performance should place it toward the top of a list which focuses exclusively on realized returns. This is due to the fact that ex ante or equilibrium returns are higher on a more risky portfolio, and on average ex post or realized returns should equal ex ante returns. If a pension fund trustee chooses a fund manager on the basis of a tendency for the fund manager to rank highly on the basis of such rankings, one is tempted

to infer that the trustee is implicitly choosing to hold a portfolio with above-average risk.

Received economic analysis thus suggests that the ranking of funds based on their realized returns over relatively short periods of time is likely to convey little useful information. Even if one entertains the possibility that certain fund managers may indeed achieve superior investment performances, one must adjust for the fact that the inherent risk of fund portfolios is likely to differ, perhaps sharply.[10] If one fund has far greater risk than another, it would not be surprising if the riskier fund on average earned higher returns. The relevant question, in fact, is whether the additional returns earned on the riskier fund were sufficient to compensate for its additional risk. Even if one focuses on risk-adjusted returns, there remains the complication posed by the fact that actual returns are randomly distributed around equilibrium returns. Only on average will a riskier portfolio in fact earn higher returns.

To draw inferences about relative portfolio performance from realized returns, one must devise a measure that corrects for any differences in the degrees of risk of the portfolios to be compared. In turn, this requires one to choose a measure of risk and a model of market equilibrium which links the expected return on a portfolio to its degree of risk. There is a textbook literature on how to address this problem, which focuses on alternative ways to identify "excess" risk-adjusted returns.[11] Only if the funds to be compared all have the same degree of risk will a simple ranking of observed returns convey information regarding superior investment performance. As an empirical matter, the degrees of risk of (say) alternative mutual funds do vary greatly.[12]

3. Private Takeovers and the Gains to Acquiring and Target Firms

There is an extensive literature, both theoretical and empirical, on takeover bids and their impact on both the acquiring and the target firms. The focus of this literature is on corporate control, defined as the right to determine the management of corporate resources. To the extent that the primary concern about the equity investments of public sector investment funds lies with the potential for the public fund to gain some measure of corporate control, a brief review of this literature is merited.

A variety of sources of potential gains to takeovers have been advanced. These include: synergies in the form of economies of scale or vertical integration; financial incentives such as those associated with underutilized tax shields; and the possible creation of market power. Of particular concern in the recent literature, however, is the possible elimination of inefficient management in the target firm. The key hypothesis is that competition among managerial teams for the right to manage corporate resources limits the ability of existing management to act <u>against</u> the interests of shareholders. Takeover bids, in effect, serve as a solution to the agency problem faced by shareholders whose ownership is divorced from the active management of the firm. Economic arguments thus favour an environment which is conducive to takeovers. Indeed, economists frequently express concern about inherent difficulties and/or legal obstacles that may be placed in the way of takeover bids.[13]

Existing empirical evidence (noted below) suggests that net economic gains do occur with successful takeover bids and hence that acquiring firms <u>are</u> net wealth maximizers. The evidence suggests that

one can reject the hypothesis that acquiring firms are motivated by managerial aggrandizement or like objectives. The exact source of the net gains, however, is not easy to identify. In the context of the present study, the analogous question is whether the managers of public sector funds are concerned exclusively with risk-return objectives and hence maximizing the net worth of the funds. If so, their attempt to gain some measure of corporate control might be justified in terms of a comparable desire to improve the efficiency of management. Clearly, the question of whether public sector funds are exclusively concerned with risk-return objectives is central to the debate regarding the merits of their attempting to gain some measure of corporate control. It is nonetheless useful to review a set of evidence that is relevant only if this assumption regarding their management is valid.

Jensen and Ruback (1983)[14] have recently reviewed the results of several U.S. studies which have examined the abnormal returns earned by both acquiring and target firms on or after the announcement of successful takeover bids. If capital markets are efficient, these abnormal returns provide the correct measure of the net economic impact of the proposed takeover. The evidence indicates that shareholders of target firms experience significant gains, while shareholders of acquiring firms receive much smaller and occasionally insignificant gains. On the surface, this evidence would suggest that the shareholders of target firms receive most of the economic gains from takeovers. This result is consistent with the existence of competition among potential acquiring firms. The result also merits qualification to the extent that the (typically) much larger size of acquiring firms implies that if, say, the economic

gains were split evenly in dollar terms between the acquiring and target firms, the abnormal returns would be larger and more significant for target firms.

The results reviewed above highlight economists' predisposition to view takeover bids as an important disciplining tool of the marketplace. Economists are far less concerned with the "fairness" of sharing rules in the event of corporate takeovers than many non-economists appear to be. Economic analysis identifies no reason for facilitating defensive action by management of target firms. Further, so long as minority shareholders are not made worse off by a corporate takeover, economic analysis suggests no rationale for regulation - perhaps in the form of mandatory follow-up offers - designed to ensure "fairness" in the treatment of minority shareholders.[15]

The implications of the above analysis for the issues at hand can be summarized succinctly:

(1) Economic analysis emphasizes the constructive role played by takeover bids, and acknowledges the positive role of competition for the management of corporate resources.

(2) If the attempt by a public sector fund to gain some measure of corporate control is motivated solely by the desire to improve management and thus raise the value of the target firm's shares, then there is no reason to discourage such attempts.

(3) However, if the takeover bid mechanism is to be fully effective, then the directors of the public sector fund must be prepared to accede to market forces and to relinquish corporate control

in response to a takeover bid. If (say) political forces dictate otherwise, then the discipline of market forces will not be brought to bear if the corporate resources controlled by the public sector fund are not being optimally managed.

(4) To determine whether the market assigns a wealth-maximizing motive to a public sector fund, one would wish to examine the abnormal returns to a target firm subsequent to the announcement by the fund of an increase in its holdings (or intention to increase its holdings) of the firm's shares.

(5) If the public sector fund has auxiliary objectives that conflict with wealth-maximization, then the standard economic analysis sketched above ceases to be relevant.

Summary point (5), which draws attention to the key question, merits elaboration.

If an acquiring firm does not have wealth-maximization of its shares as the objective of its takeover activities, then it too will become a target for acquiring firms. This is nothing more than the recognition that agency costs resulting in inefficient management of corporate resources invite takeovers as a market response. There may be no comparable market force disciplining the directors of a public sector investment fund that can exert some measure of corporate control, as noted in point (3) above.

Assume that the public sector fund does have an auxiliary objective which conflicts with the goal of maximizing the market value of the fund's assets. The fund may, for example, seek to increase its holdings of the shares of a target firm with the auxiliary objective of redirecting the firm's real investment activities to the province in which the fund is located. Relative to a world in which no such funds exist, the following would occur:

(1) The existence of the public sector fund would reduce - in a probabilistic sense - the expected earnings of all potential target firms. If the discount rates used to take the present value of these earnings were unchanged (more on this below), the share prices of all potential target firms would decline. This once-and-for-all decline would take place at the time the market perceived that the directors of a large public fund had decided to act in this non-wealth-maximizing manner. (Additional losses would also occur, of course, on the shares of target firms at the time the market first discovers that the public fund has started to accumulate them.)

(2) There would be an additional source of uncertainty regarding the future prospects of potential target firms. This could raise the required rate of return on equity demanded by shareholders, and hence the discount rate used by shareholders to calculate the present value of the earnings stream that is expected to accrue to them. Even if the expected earnings stream were unaffected, share prices would fall because of this increase in the discount rate. Moreover, in all subsequent

periods, these firms would be faced with a higher equity cost of capital, which is simply the rate of return required by equity holders.

Received theory indicates that the required rate of return on the shares of these potential target firms will rise if the increased uncertainty represents an increase in their systematic risk. This will be the case if the market value of the shares of potential target firms is a non-trivial fraction of the market value of all shares. The latter is likely, and hence investors will not be able to shed this risk by holding a sufficiently diversified portfolio. If the public sector fund acquires an influential position in the shares of one or more firms, the decline in the price of their shares at the time this information becomes known will lower the realized return on even a well-diversified portfolio. Intuitively, there is no "good news" for the prospects for other firms that will accompany and thus offset the announcement of the investment activities undertaken by the public sector fund.

In short, the required rate of return on equity - and hence the cost of equity capital - is likely to rise for potential target firms if the market perceives that a large public sector fund is prepared to acquire shares with the ultimate purpose of influencing management to make decisions which conflict with the goal of maximizing shareholder wealth. In turn, this higher cost of capital is likely to depress all real investment activities of the target firms.

> If the political pressure applied by the directors of the fund is likely to take the form (for example) of resisting layoffs in a particular province, target firms will have an incentive to curtail their investment in that province. Quantitatively, these effects would be greater, the greater is the likelihood that the public sector fund will be able to acquire some control over management, and the greater is the scope for the directors of the fund to redirect real investment, resist layoffs or pursue like initiatives.

Both (1) and (2) will occur if and only if the public sector fund has the potential to acquire a sufficiently large fraction of the outstanding shares so as to exert some influence on corporate management. Both (1) and (2) identify an important cost to the pursuit of auxiliary objectives by a public sector fund. They suggest that such objectives might be better achieved through an alternative policy tool, although only a complete cost-benefit analysis of alternative instruments in the context of well-defined policy objectives could provide a definite answer to this question.

Because the question of whether or not a public sector fund seeks only to maximize its value is so central, it is useful to highlight at this time the questions that inevitably follow. Is it possible, perhaps through a review of its investment activities, to determine whether or not the public sector fund is being managed solely in accordance with risk-return (and hence value-maximization) objectives? Is the market's perception of the objectives likely to be important, especially if the market is likely to be skeptical of any claim that the public sector fund is managed solely according to risk-return objectives? Is it possible to design a system to ensure that the public sector fund is managed solely

on the basis of risk-return objectives, assuming that this is the fund's stated objective?

The preliminary responses to these questions are as follows. In view of the earlier discussion in this chapter, it may prove difficult to determine from the past performance of the fund whether or not the fund has been managed solely in accordance with risk-return objectives. Simple rankings of the fund's performance relative to alternative funds in the private sector are not likely to be sufficient. If the market perceives a risk that the fund is not concerned exclusively with risk-return objectives, then uncertainty in the capital market will increase in the manner outlined above. Finally, the ultimate beneficiaries of the public fund may be likened to the shareholders of a firm, in that a similar agency problem exists. To ensure that the public sector fund is invested solely with risk-return objectives may require an explicit attempt to address this agency problem.

4. Social Investing as a Fund Objective

The concept of social investing is often raised, for example, in the context of the management of pension funds. It has two possible dimensions: the forced inclusion of certain assets, and the forced exclusion of others. The analytical issues associated with social investing are both straightforward and instructive.

If a particular fund is required to include a widely-traded stock in its portfolio, the risk-return objectives of the fund need not be compromised. The activities of other investors, who would sell their shares if the price of the stock rose above the level which would produce the appropriate equilibrium return, would ensure that the correct price

prevailed in the marketplace. If the fund were required to hold such a significant portion of the shares that its portfolio was no longer well-diversified, than the performance of the fund would suffer. In effect, beneficiaries of the fund would be bearing risk for which they would not be compensated.

If a particular fund is required to exclude a widely-traded stock from its portfolio, or to limit its holdings beneath what they would otherwise be, there may also be adverse consequences. If the exclusion of the stock were to limit the ability of the fund to hold a well-diversified portfolio, then the efficient frontier facing the fund would be affected.[16] In other words, the minimum amount of risk that the fund would have to bear in order to achieve a target expected return would rise. Equivalently, the maximum expected return for a target level of risk would decline. In fact, it is not necessary for a fund to hold shares of all firms whose shares are publicly traded in order to approximate an efficiently diversified portfolio. There is no persuasive reason for a fund to hold a stock in a proportion that exceeds the fraction of the market value of all stocks represented by that particular stock. This rule of thumb suggests a quick test to see if exclusion provisions are impeding diversification strategies, at least in the case in which the fund is allowed to hold some fraction of the outstanding shares of the firm in question.[17]

Note that if capital markets are semi-strong efficient and if the fund's management does not have access to inside information, there is no validity to the argument that exclusion provisions may limit a fund's ability - in effect - to earn abnormal returns. Further, all received theories of capital asset pricing imply that investors are not compensated

for bearing unsystematic or diversifiable risk. It is thus quite unlikely that a fund manager could argue that a particular stock has to be "over-represented" in his portfolio in order to achieve a desired amount of systematic risk and the corresponding ex ante or equilibrium return.

5. Summary

Historical return data suggest that public sector funds with long-term investment horizons ought to hold significant amounts of common stocks in their portfolios. Two key results from modern finance theory then bear crucially on the management and the evaluation of such portfolios. The first is the hypothesis that capital markets are efficient in the semi-strong form, which suggests that portfolio managers will not be able to earn "excess" risk-adjusted returns on the basis of publicly available information. The second, common to all modern models of capital asset pricing, is that investors are compensated in the form of higher equilibrium returns only for bearing systematic or nondiversifiable risk. Economic analysis in general favours a market that is conducive to takeover bids and competition for corporate control, due to the net economic gains associated with such activities. If a public sector fund has a measure of corporate control, but - for political or other reasons - will not entertain takeover bids, this disciplining tool of the marketplace may be blunted. If a public sector fund seeks some measure of corporate control in target firms, but is not motivated exclusively by risk-return or value-maximizing objectives, the result will be to reduce share values and increase the amount of systematic risk in the marketplace. The latter, by raising the required rate of return demanded by shareholders, will raise the cost of equity capital to potential target firms. In turn, this would serve to depress the level of their real investment spending.

CHAPTER TWO - Footnotes

1. The geometric mean of the real returns on common stocks presented in Table 1, which is the appropriate measure in the present context, is 6.59 percent. To put these results in perspective, note that if an investor contributes $1,000 per year for 40 years, and the portfolio earns a real return of 3 percent, the accumulated (real) wealth at the end of this period will be $75,000. If the real return is 6½ percent, the accumulated (real) wealth will be $154,000, or more than twice as much.

2. See, for example, B. Malkiel, "The Case for Common Stocks in the 1980's" in A.R. Sanderson, DRI Readings in Macroeconomics (New York: McGraw-Hill, 1980). He argues that increased uncertainty has caused the risk premium accorded common stocks to increase, a result which also helps explain the deterioration in price-earnings ratios throughout the 1970s. The recent volatility of bond prices also suggests, however, that the equilibrium real return on long-term Canada bonds may have risen as well.

3. At the end of 1979, stocks (common and preferred, Canadian and non-Canadian) represented 24.3 percent of the assets of trusteed pension plans in Canada, based on market values. See Statistics Canada, Trusteed Pension Plans Financial Statistics 1979 (Catalogue 74-201 Annual), Text Table III, page 13.

4. Note, by way of contrast, it would not be rational for an individual investor to hold fixed-income securities in his personal account, with the resulting interest income to be taxed at ordinary rates,

while holding a like amount of common stocks in his RRSP. The tax-disadvantaged assets, the fixed-income securities, should be held in the tax-sheltered RRSP.

5. In the capital asset pricing model (CAPM), the equilibrium return on a portfolio of common stocks will rise with its beta coefficient, which measures its systematic or nondiversifiable risk. In the arbitrage pricing theory (APT), risk is not one-dimensional and the equilibrium return on a stock portfolio will be an increasing function of its positive correlation with each of a multiple of sources of systematic risk. See any finance textbook for a detailed treatment of these models.

6. For a capsule summary of this literature, see (for example) Thomas E. Copeland and J. Fred Weston, Financial Theory and Corporate Policy (Reading, Mass.: Addison-Wesley, 1983), chapter 10.

7. If there is a risk-free portfolio, then the investor should hold an appropriate (for his desired degree of risk) weighted average of the risk-free portfolio and the market portfolio of common stocks. In fact, there is no portfolio in North America which provides a risk-free real rate of return, although the latter is typically proxied by a portfolio of short-term Treasury Bills.

8. In particular, Grossman and Stiglitz have noted the theoretical impossibility of completely efficient capital markets, since no agent would have an incentive to process information in such a world. Under certain circumstances, nonetheless, market prices will reveal most of the information known to informed traders, who still receive some benefit from their efforts to acquire information.

See S.J. Grossman and J.E. Stiglitz, "The Impossibility of Informationally Efficient Markets", American Economic Review 70: No. 3 (June 1980).

9. There is some evidence, for example, that the 1971 Canadian Tax Reform and its subsequent amendments in 1977 were not "fully reflected" in stock prices until some time after the changes had been announced and/or implemented. See B. Amoako-Adu, "The Canadian Tax Reform and its Effect on Stock Prices: A Note", Journal of Finance XXXVIII: No. 5 (December 1983).

10. Empirical studies have confirmed that the systematic risk (as measured by their beta coefficients) of mutual funds is consistent with their stated investment objectives. "Growth" funds, for example, have greater risk than "growth-income" funds, and so forth. See M. Jensen, "Risk, the Pricing of Capital Assets, and the Evaluation of Investment Portfolios", Journal of Business, April 1979. See also F. Campanella, The Measurement of Portfolio Risk Exposure (Lexington, Mass.: Lexington Books, 1972).

11. See, for example, Chapter 20 (and references therein) in S.M. Tinic and R.R. West, Investing in Securities: An Efficient Markets Approach (Reading, Mass.: Addison-Wesley, 1979). To examine the performance of a mutual fund, for example, one needs time series data on the returns to the fund as well as a measure of its systematic risk and returns to the market portfolio of all stocks.

12. See the references cited in footnote 11.

13. Note, for example, the "free rider" problem that arises from the fact that the proper management of a common property is a public good

to all owners of the property. If one small shareholder devotes resources to improving management, then all shareholders benefit. This is the externality that the takeover bid seeks to internalize. To the extent that an acquiring firm cannot acquire all of the shares of the target firm, the shareholders of the target firm can free ride on the resources devoted by the acquiring firm to improving management. As a consequence, such shareholders may choose not to tender their shares, thus obstructing the takeover. See, for example, S.J. Grossman and O. Hart, "Takeover Bids, the Free-Rider Problem and the Theory of the Corporation", Bell Journal of Economics, Spring 1980. Grossman-Hart discuss the possibility of corporate charters being written to permit the acquiring firm to exclude minority shareholders (i.e. shareholders who did not tender their shares to the acquiring firm) from all of the improvements brought about by the acquiring firm. The latter could be accomplished in practice, for example, by the acquiring firm's selling the acquired firm's assets to another firm owned by it at terms disadvantageous to the minority shareholders.

14. M.C. Jensen and R.S. Ruback, "The Market for Corporate Control: the Scientific Evidence", Journal of Financial Economics, Volume 11, April 1983.

15. Such "fair" sharing arguments are made by many lawyers and they form the basis for the recent review of the Ontario Securities Act relating to takeover bids and issuer bids. To the extent that "fair" sharing rules limit potential gains to acquiring firms, the number of takeover bids may be reduced. If an acquiring firm cannot make an above-market offer for only a controlling block of shares, the

takeover may not take place and the economic gains that would subsequently accrue to all shareholders of the target firm might not take place.

16. Such is likely to be the result, for example, of restricting the fraction of their assets that private pension funds in Canada can hold in foreign securities.

17. In the CAPM, which assumes that a risk-free portfolio providing a certain real return does exist, rational investors hold a weighted average of this risk-free and the market portfolio. The more risk they wish to bear, the higher will be the weight given to the market portfolio. The market portfolio, in turn, is a value-weighted portfolio of all risky assets. Empirically, the latter is often proxied by a value-weighted portfolio of a broad index of common stocks. In this case, the degree of diversification of a portfolio can be measured by the degree of correlation of its returns with that on the market portfolio. If a portfolio is efficiently diversified, then its returns should be perfectly correlated with the market portfolio, so long as the portfolio is constructed to have some risk.

CHAPTER THREE - The Caisse de Dépôt at Placement du Québec

1. Investment Objectives

1.1 Fiduciary Responsibilities and Auxiliary Goals

The primary investment objective of the Caisse de Dépôt et Placement du Québec, as set forth at the time of its inception, is linked to its fiduciary responsibilities to its depositors. In effect, funds are to be invested subject to the usual risk-return considerations. The Caisse, in addition, is assigned two other objectives: to support the economic development of the province of Quebec, and to broaden and to improve the liquidity of the market for provincial securities, and thus to improve the administration of the province's debt.[1]

In the 1982 Annual Report of the Caisse, the objectives of its investment policies are reiterated, with particular attention to the development motive and the conflict-of-interest questions:

> The investment policy of Caisse hinges on two major elements. First, it is essentially bound by criteria of security and return; secondly, its action is directed towards the support of Quebec economic development. For Caisse these requirements are absolutely compatible (italics added). Moreover, they imply the diversification of investments and, depending on the impact of the economic and financial cycles, a timely asset mix between fixed income securities, such as shares and real estate investments. With this in mind, Caisse has for the last few years endeavoured to increase the relative importance of variable income securities in the overall assets under its management, as a hedge against inflation.
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> (page 19)

The primary concern of the present study is with the equity investments of public sector funds. The discussion is thus focused on the auxiliary objective of promoting the economic development of Quebec, rather than that of ensuring a broad and liquid market for the province's debt.[2]

1.2 Promoting Economic Development: A Closer Look

The investment policies of the Caisse have, as an auxiliary objective, the goal of promoting economic development in the province of Quebec. For analytical purposes, it is useful to look "beneath" this broadly stated objective. The use of the fund in this manner may be premised on the need to eliminate a market failure, such as the presumed inability of small firms to raise capital at a cost which is commensurate with its risk. Alternatively, the fund may be used to promote the introduction or growth of a firm or industry beyond that which would occur naturally as a result of market forces. This is analytically equivalent to providing a direct subsidy. The intermediate policy objective in this second case is to reduce the cost of debt or equity capital beneath that level required by the market.

In analyzing the market failure and the direct subsidy arguments, it is useful to distinguish between small- or medium-sized firms whose securities are not traded on organized exchanges and large firms whose securities are actively traded. Both arguments seem more relevent to firms whose securities are not actively traded. Even here, however, important caveats are in order. Yet most of the public discussion of these issues has focused on the Caisse's acquisition of publicly traded shares. This point merits emphasis.

The argument that firms are unable to raise capital at a rate commensurate with its risk, if at all, is perhaps invoked with too little critical scrutiny. To the extent that the argument is valid, it is likely to be limited to smaller firms, perhaps those with intangible assets (for example, the computer software industry) which are difficult to collateralize. If the public sector fund wishes to subsidize the cost of capital to smaller firms whose securities are not actively traded, it is relatively straightforward to do so. Loans can be made at beneath-market rates, and the purchase of common shares or convertible securities at a price above that which would be set by market forces sets no corrective market forces in motion. The question of whether such subsidies will promote additional real investment is more difficult to answer. Profit-maximizing firms will undertake real investment spending until its marginal return falls to equality with the marginal cost of capital to the firm. If a firm has to raise its marginal funds at full market rates, then any subsidy on loans from the Caisse will not alter its real investment spending. If so, any subsidy delivered by the Caisse is simply a windfall gain to the owners of the firm. If the subsidized loan from the Caisse is the marginal cost of funds to the firm, then its real investment spending will increase. Such would be the case, for example, if the Caisse supplied at the subsidized rate all of the capital requested by the firm. If subsidies are delivered by the Caisse, the development objective obviously conflicts with the fiduciary responsibility.

The argument that large firms whose shares are publicly traded are potential victims of a like market failure is, quite simply,

unpersuasive. Further, it is unlikely that the activities of a public sector fund can subsidize the cost of debt or equity capital of such firms, at least if the fund's activities are confined to publicly-traded securities. Suppose, for example, that the public sector fund purchases on an organized stock exchange the shares of a firm with the goal of "supporting" or raising the price. The ultimate objective may be to lower the user cost of equity capital, and perhaps to facilitate a new share offering. So long as well-informed investors must be induced to hold the common shares of this firm at the market price, this price cannot long remain above its equilibrium value. The equilibrium price is that which makes the ex ante return on the shares commensurate with their systematic risk. This equilibrium price must prevail if the capital market is informationally efficient. If the price of the shares is temporally bid up or "supported" during the acquisition phase, there is a windfall gain to the sellers of the shares. Again, the conflict with the fiduciary objective is immediately apparent.

In short, neither of the arguments which might suggest that a public sector fund be used to promote economic development are persuasive in the context of a fund which limits its activities to the purchase or sale of actively traded securities. Yet the investment by the Caisse in small- and medium-sized firms not listed on a stock exchange (plus corporations in the Quebec public and cooperative sectors) represent a relatively small fraction of the Caisse's total assets. At the end of 1982, investment in the common shares and convertible securities together with the debentures of such firms constituted only 8.03% of

the total amount invested in Canadian enterprises, and only 1.87% of the total portfolio.[3]

Two conclusions follow from the above observations. First, the purchase of publicly traded shares by a public sector fund is likely to have a quite limited effect on the user cost of equity capital of such firms. Secondly, if the development objective is to be actively pursued in the context of firms with publicly traded shares, then it would appear that the directors of the public sector fund must be prepared to adopt a managerial role. The directors could, for example, redirect the real investment activities of target firms toward a particular province or geographic region. If this is the intention, the management role obviously conflicts with the fund's fiduciary responsibilities. Since (1) the market failure argument is not relevant to firms with publicly traded shares and (2) any public sector fund has a quite limited ability to reduce the user cost of equity capital for firms whose shares are actively traded, it would be useful if the Caisse were to provide an explicit statement as to how its development objectives are to be addressed through its stock portfolio.

Does the Caisse limit its purchases to shares which are "under-priced", on the premise that the capital market is not informationally efficient? Even if this premise is correct, which scientific evidence suggests it is not, the likelihood remains that the investment activities of the Caisse will not be able to cause the prices of such shares to diverge permanently from what the market perceives to be the correct or equilibrium prices. Do the directors of the Caisse believe, if the redirection of real investment is attempted, that the target firms have

erred in their assessment of the optimal magnitude, timing and location of real investment expenditures? If so, why have other firms not sought to exploit these opportunities? Or would the directors of the Caisse, in fact, be willing to redirect real investment activities with the explicit understanding that these are not wealth maximizing or optimal decisions from the viewpoint of the shareholders of the firm? The repeated assertion by spokespersons for the Caisse that there is no conflict between the fiduciary and development objectives invites amplification. In particular, how is the development objective to be served by the purchase of publicly traded shares?

1.3 Possible Conflict Between Fiduciary and Development Objectives

If a public sector investment fund is purchasing provincial debentures at a below-market rate of interest, this is relatively easy to establish. If so, the conflict with the fiduciary objective is immediately apparent.

If the public sector investment fund is purchasing the common stock of firms which have an important presence (or potentially an important presence) in the province, it is more difficult to establish whether or not a conflict exists. It is also important to distinguish between the case in which the managers of the public sector fund take only a fiduciary role, and thus remain passive, from the case in which the managers of the public fund take a managerial role, and seek to influence (say) the real investment activities of the firm.

Passive (Fiduciary) Role

Much controversy regarding the Caisse has been the result of its apparent willingness to assume a managerial role. Yet the potential conflict of interest with its fiduciary objective even if no such managerial role is envisioned merits emphasis. As noted in chapter two, received theory and evidence suggests that investors are compensated (in the form of higher expected returns) for bearing only nondiversifiable or systematic risk. The prudent portfolio manager thus seeks to hold a well-diversified portfolio that eliminates all idiosyncratic or diversifiable risk. If the portfolio is not well diversified, then the fund has too much risk in light of its expected return, or too low an expected return in light of its risk. To use the jargon of financial economists, the fund is holding a portfolio which is not on the efficient frontier.

The preceding argument assumes, quite reasonably, that the investment activities of the public sector fund do not cause the prices of its common shares to diverge from their equilibrium values. To the extent that the share prices of target firms are temporarily bid up as the public sector fund seek to enlarge its position there is a once-and-for-all transfer of wealth to the sellers of these shares. So long as other informed investors must be induced to hold the shares, it is reasonable to presume that any deviation of market prices from their equilibrium values as a consequence of the trading activities of the public sector fund will be short-lived. Thus the major loss to the beneficial owners of the fund will be the excess risk relative to expected return (or insufficient expected return relative to risk) that is the continuing byproduct of incomplete diversificaton.

In principle, it is straightforward to obtain a quantitative measure of the extent to which the stock portfolio of a particular fund is incompletely (and thus inefficiently) diversified. This can be done by determining how closely correlated are the returns on the fund's stock portfolio with the returns on the market portfolio of all common stocks. The simple correlation coefficient between these returns must be very close to (plus) one if the portfolio is to be considered well diversified. In principle, one could conduct this test by determining the extent to which the present stock portfolio held by the Caisse, if held historically, would have generated returns that are closely correlated with those on the market portfolio. This exercise is beyond the scope of the present study, but may prove quite instructive at some later date.[4]

Managerial Role

If the directors of the public sector fund adopt a managerial stance, a conflict of interest is not inevitable. Only if these directors do not have wealth maximization as their ultimate objective will such a conflict arise.

The Caisse's policy of seeking board representation, together with the size of its stake in several firms that are prominent in the Quebec economy,[5] suggest to many observers that its directors are seeking a managerial role. By contrast, pension funds have traditionally been passive investors and have not sought board representation. The question of whether the Caisse is seeking other than wealth-maximizing objectives is far more difficult to establish. If the Caisse sought, for example, to direct real investment to the province of Quebec which is not justified

on purely economic grounds, then the market value of the firm's shares *cet. par.* must fall. If so, both the beneficial owners of the fund and the other shareholders of the target firm must suffer windfall losses.

It is very difficult to determine, based on publicly available information, whether the Caisse has in fact encouraged target firms to act in a manner that conflicts with the objective of maximizing shareholder wealth. By contrast, it is easy to establish that participants in the capital market *perceive* that a potential conflict of interest does exist. As noted in chapter two, the *perception* that the Caisse may act in this manner could lead to a larger risk premium being built into the market's required rate of return on the shares of those firms which either are or may be vulnerable on this account.

In October 1983, Marcel Côté and Léon Courville conducted a survey of businessmen's perception of the role of the Caisse de dépôt for the C.D. Howe Institute.[6] Over eighty percent of respondents, both Anglophone and Francophone, felt that the Caisse was *not* sufficiently independent from the government of Quebec. A majority of Anglophones (64%), and a significant minority of Francophones (44%), felt that the Caisse should *not* have as a specific mandate the promotion of development in Quebec. A majority of Anglophones (68%), and a minority of Francophones (33%), felt that the present limit of 30% on the fraction of the common shares that the Caisse is allowed to hold should be reduced. The majority of Francophones (63%) felt that the present limit should be retained. A large majority of the respondents deplored the fact that the Caisse can make alliances, with either public or private interests, to gain control of private corporations. The co-ownership

of Brascade Resources Inc. with Brascan and the co-interest in Domtar Inc. with the Société générale de financement du Québec, as examples of such alliances, were decried by the respondents. Finally, the majority of respondents felt that the Caisse should be allowed to place its representatives on boards of directors, but not on executive committees.

In effect, the respondents were prepared to differentiate between board representation, presumably designed to protect the interests of the Caisse, and representation on executive committees, which suggests a more active managerial role. (The Caisse and the Société générale de financement du Québec sought and obtained not only board representation at Domtar Inc., but also representation on the executive committee.)

On balance, the responses indicate a concern that the Caisse at least has the potential to act in a manner that may conflict with its fiduciary objectives. This result can hardly be viewed as surprising, nor can the fact that many businessmen would prefer for the Caisse not to have the promotion of development in Quebec as part of its mandate. Whether these concerns, in fact, translate into higher rates of return required by the market on the shares of potential target firms is difficult (if not impossible) to establish.

2. Implications of Fiduciary Responsibilities versus Development Objectives for Interested Parties

2.1 Background Notes on Size, Depositers, Asset Mix of the Caisse de Dépôt

In addition to accepting deposits from the QPP, the Caisse accepts deposits from the Government and other public sector pension plans, Quebec automobile insurance, workmen's compensation board and the supplemental pension plan of the Quebec construction industry. At year-end

1983, the market value of the total assets under management at the Caisse reached $18.1 billion, up from $16.1 billion in 1982 and $11.4 billion in 1981.[7] At year-end 1982, QPP funds represented 53.5% of the assets under the management of the Caisse. Yet this is a potentially misleading figure. In 1983, for the first time, the expenses of the QPP exceeded its contributions and a portion of its earnings ($157 million of $900 million) was used to meet expenses. Unless contribution rates for the QPP are raised before the end of the present decade, the earnings of the fund will cease to cover the shortfall of expenses over contributions. At that time, capital repayments will be necessary to meet expenses and the size of the QPP fund will actually decline. As is the case with the CPP, a decision regarding the timing of an inevitable increase in contribution rates will determine the rate of growth (if any) of the corresponding fund. At present, the most important source of net new deposits is the Government and public employees pension plan. In 1982, for example, this source represented 48.4% of the net deposits received by the Caisse.

It is useful to have an historical perspective on the size and growth of the assets under the management of the Caisse. The book value of assets and the net deposits of its major contributors over the 10-year period ending in 1982 are presented in Tables 2 and 3, respectively. The historical data highlight two of the observations in the preceding paragraph. First, the assets managed on behalf of the QPP are the largest in magnitude, and currently represent about one-half of the total. Secondly, net deposits from the QPP peaked (in current dollars) in 1976, and declined to almost zero by 1982. By contrast, the net deposits from the Government and public sector pension funds have continued to grow

through the end of 1982. This growth has not been sufficient, however, to prevent total net deposits from declining sharply between 1980 and 1982. This is an important perspective to have on the size and prospective growth of the portfolio of the Caisse. Large fluctuations in realized rates of return, which produce corresponding fluctuations in the market value of the assets managed by the Caisse, should not be allowed to mask this basic trend. The dramatic rise in the market value of the portfolio between 1982 and 1981, for example, reflects in the main the sharp rise in the market value of existing assets, not an influx of net new deposits. In 1982, the realized rate of return on the fund was 34.5%. In 1981, by contrast, the realized rate of return was minus 2.6%.

The primary concern of the present study is with the investment in common shares of public sector funds. Conceptually, this equals the fraction of the assets held in the form of common shares, multiplied by the dollar value of assets. In recent years, the fraction of the assets of the Caisse held in the form of common shares has risen sharply. At year-end 1982, the stock portfolio had a market value of $3.1 billion, representing 19.2% of the total assets managed by the Caisse. At year end 1983, the stock portfolio had a market value of $4.9 billion, representing 25.5% of the total assets managed by the Caisse. If a target figure of (say) 25% is assumed for common shares, then the problem of predicting the trend rate of growth of this portfolio reduces to the problem of predicting the trend rate of growth of the total assets managed by the Caisse.

Clearly, a major source of uncertainty regarding the rate of growth of the portfolio of the Caisse is uncertainty regarding the timing of future increases in the contribution rate to the QPP. Any attempt to project the future size of the QPP investment fund, and

ultimately the size of the asset portfolio managed by the Caisse, must acknowledge this fact. In addition, there also exists uncertainty regarding the rate of growth of the other sources of deposits, expecially the Government and public sector pension funds. To provide evidence on this issue, the projections of the size of the portfolio of the Caisse and of its principal depositors prepared for the C.D. Howe Institute by Yves Guérard are reproduced in Table 4. The figures are in 1983 dollars and extend to the year 2016. For the QPP (and also for the public sector pension plans), low and high growth scenarios are presented.

Note first the wide range in the estimates of the size of the QPP investment fund, and hence of the portfolio of the Caisse on this account. In essence, the low growth scenario embodies a pay-go system for the QPP. Contribution rates remain at 3.6% until 1990 and are set at pay-go levels thereafter, with a reserve fund equal to 2 years contributions. In the high growth scenario, the contribution rate rises by 1% per year until 1988 and is then set equal to the pay-go rate. To keep these alternative scenarios in perspective, it is useful to note that the Parliamentary Task Force on Pension Reform, which released its Report in late 1983, recommended that both the CPP and QPP be funded on a pay-go basis.[8] Indeed, at least with regard to the CPP, this appears to have emerged as a consensus view.[9]

In short, there exists substantial uncertainty regarding the rate of growth of the asset portfolio managed by the Caisse. Even conservative estimates, however, suggest that the fund will continue to grow for the foreseeable future. In monitoring the potential for more rapid growth, the central question is the impending decision as to how soon and by how much contribution rates to the QPP will be increased.

2.2 The Beneficial Owners of the Funds Managed by the Caisse de Dépôt

If there is no conflict between the fiduciary responsibilities and the auxiliary objectives of the Caisse, then the beneficial owners of the assets under its management are unaffected by the existence of the auxiliary objectives. To analyze the impact of a potential conflict, it is useful to think of the simple case in which the Caisse continually purchases new debentures at a below-market rate of interest.

QPP

The beneficial owners of the QPP investment fund are also the taxpayers of the province. If the QPP has an investment fund, the implication is that the contribution rate to date has exceeded the pay-go rate. What happens to the beneficial owners of the fund if the QPP earns a beneath-market rate of return on its portfolio? Does the question of whether the fund holds provincial debt or private sector securities affect this analysis?

To analyze these questions, it is useful first to consider a (partially) funded QPP which invests solely in provincial debt. Assume, for analytical purposes, that the initial levels of government spending and taxes are unaffected by the existence of the QPP fund, so that the external borrowing of the province of Quebec falls by the amount that it lends to the QPP.[10] To make the point as simply as possible, contrast case (a) in which the debt bears the market rate of interest and case (b) where the debt bears an interest rate of zero. Case (b) thus corresponds to a complete subsidy.

In case (a), the workers/contributors to the QPP pay taxes sufficient to meet the interest payments on both the external and the

QPP debt. In case (b), the taxes necessary to meet the interest payments on the sum of external and QPP debt clearly fall. The workers/ contributors to the QPP thus earn a zero rate of return on the QPP fund, but - in effect - receive an equivalent rebate on their current taxes. In short, the incidence of any interest subsidy on QPP loans to the province is a "wash". The lower return on the QPP fund is matched by a corresponding reduction in taxes necessary to meet the province's interest expenses.

Now consider the situation in which the QPP fund invests solely in the debt of private firms. Again, contrast case (a) in which this debt bears a market rate of interest with case (b) in which the debt bears an interest rate of zero. Here, the subsidy in case (b) flows in the first instance solely to the shareholders of the private firm. There is no analogue to the reduction in taxes that occurs when the subsidy is provided to provincial debt. The ultimate incidence of the subsidy may provide some benefit to the owners of the QPP fund, to the extent that additional real investment and ultimately a larger capital stock can be traced to the subsidy.[11]

If the QPP fund were able to provide an on-going subsidy to the cost of equity capital for a private firm, the result would be analogous to that which occurs when the subsidy is accorded private debt. Contributors to the QPP suffer in that a higher level of contributions is necessary to pay for the pensions due under the terms of the benefit formula. Again, any recoupment is indirect and in the form of a higher capital stock and a correspondingly higher tax base.

Government and Public Sector Pension Plans

Because employees covered by these plans are only a subset of the work force of the province as a whole, the impact of a subsidy to provincial debt may differ from that under the QPP. The result depends on the degree of competition in the labour market, as well as on the rationality of market participants. In a competitive labour market, the ultimate incidence of the cost of a pension plan will fall upon workers, who will forgo an appropriate amount of current wages.[12] To be precise, rational workers will forgo those cash wages necessary to purchase the promised benefits at a market rate of return on the pension fund. If the fund earns a beneath-market rate, the employer will have to provide the difference. If the employer is the province of Quebec, then taxpayers will both receive the benefits of and pay for any subsidy to the cost of issuing provincial debt. Thus a "wash" will again occur. Any deviation from this (perhaps) rigid model of labour market behaviour will result in the employees covered by these plans paying for some part of the subsidy. By analogy, employees covered by these plans and/or taxpayers at large will bear the cost of providing any subsidy to private firms. If the labour market is competitive and workers are rational, then it will again be the taxpayers of the province who ultimately bear the cost of the subsidy.

2.3 Shareholders of Target Firms

There are two ways in which the shareholders of private firms may be affected by any conflict that may arise between the fiduciary objectives of the Caisse and its mandate to promote the economic development of Quebec.

The most important pertain to the possibility, or perception of the possibility, that the Caisse may acquire a sufficient holding of common shares so as to force the firm's management to act against the interest of its shareholders. As noted in chapter two, even the perception of this possibility could lead to (1) a higher required rate of return on the shares of the universe of target firms (and a once-and-for-all windfall loss at the instant that this increase in the required rate of return is demanded by the market), and (2) the obvious erosion in shareholder wealth that occurs if management - under pressure from the Caisse - makes real investment or like decisions that do not have the maximization of shareholder wealth as their objective.

The second occurs if the shareholders are the beneficiaries of any successful attempt by the directors of the Caisse to deliver a subsidy to a private firm. If both the debt and shares of the target firm are actively traded, however, the ability of the Caisse to deliver a subsidy is likely to be quite limited.

3. Portfolio Mix and Investment Returns of the Caisse de Dépôt

3.1 Asset Mix

The percentage of assets (book value) under the management of the Caisse allocated to the major investment categories for the period 1975 to 1983 are summarized in Table 5. By year-end 1983, the book value of equities had risen to 20.0% of the book value of the portfolio, up sharply from the 12% to 13% of the late 1970's. As previously noted, the market value of the equity portfolio stood at a full 25.5% of the market value of the total assets managed by the Caisse.

To place these figures in perspective, it is useful to note the asset mix - especially as it pertains to stocks and convertible securities - of trusteed pension funds in the public and private sectors. Recently, trusteed pension funds in the public sector have held about 12% of their assets in stocks, which is about one-half of the 24% allocated by trusteed pension funds in the private sector.[13] Of interst also is the behaviour of the Ontario Municipal Employees Retirement System (OMERS), which is now free to invest as it sees fit. As of 31 December 1983, as noted in the Annual Report, common stocks represented a full 41% of the market value of the entire portfolio.

As noted in chapter two, pension funds which have long-term horizons are well suited to bearing the greater risk, in anticipation of the higher expected returns, associated with investing in common stocks. It is thus useful to note that the percentage of the assets managed by the Caisse that are allocated to stocks, although higher than the typical trusteed pension fund in the public sector, is not unusual if judged by the standard set by trusteed pension funds in the private sector. Indeed, it is significantly less than the percentage allocated by OMERS, which was required prior to 1975 to hold only non-marketable debentures of the province of Ontario.

3.2 Investment Performance

As discussed at length in chapter two, received economic analysis emphasizes the importance of looking at risk-adjusted returns in assessing portfolio performance. By contrast, most of the material on investment performance that is readily available contains only "raw" data on realized returns. A typical summary statement is that contained

in the 1982 Annual Report of the Caisse, which is reproduced in Table 6.

These figures are of relatively little value to financial economists. They show that over the 1975-1982 period, the segregated stock fund of the Caisse produced a lower average return than the TSE 300 index. If the stock fund of the Caisse had the same degree of risk as this TSE index, then this evidence would suggest a somewhat inferior investment performance. In the absence of data which allow one to assess the degree of risk of the segregated stock portfolio, one can make no meaningful statements about relative fund performance.

It is instructive, however, to consider the following type of question. In the context of the widely-used capital asset pricing model (CAPM), what is the degree of systematic risk that the segregated stock portfolio would have to contain if the observed return is in fact fully commensurate with the risk of the portfolio?

According to the CAPM, the expected return on the stock portfolio held by the Caisse $(E(R_c))$ is related to the expected return on the market portfolio $(E(R_M)$ as follows:

$$E(R_c) - R_f = B_c(E(R_M) - R_f) \qquad (3.1)$$

In equation (3.1), R_f is the return on the risk-free portfolio, typically proxied by a portfolio of Treasury Bills, and B_c is the beta coefficient of the Caisse's stock portfolio. The higher is B_c, the greater is the amount of systematic risk contained in the Caisse's portfolio and hence the greater is its expected excess return, given by $E(R_c) - R_f$. The beta coefficient for the market portfolio equals one, so that $B_c > 1$ indicates that the Caisse's stock portfolio has above-average risk, and conversely.

During the period 1975-1982, the average annual return on a portfolio of 91-day Treasury Bills was 11.0%. Using the realized annual returns on the segregated stock and the market portfolio, or 16.2% and 17.8%, in equation (3.1), it follows that the Caisse's stock portfolio would have to have had a beta coefficient of 0.76 over this period if its performance is to be commensurate with its risk. In other words, if B_c equals 0.76 and hence the Caisse's segregated stock portfolio has less risk than the market portfolio, the fact that its realized return over the period 1975-1982 was less than that on the market portfolio would be of no consequence. The stock portfolio would neither have "outperformed" nor "underperformed" the market as a whole on a risk-adjusted basis. Indeed, if B_c were less than 0.76, then the realized return on the Caisse's portfolio - although less than that on the market portfolio - would be evidence of a superior investment performance.

Because the requisite data are not available, it is not possible to calculate the (average) beta coefficient for the segregated stock portfolio over the period 1975-1982. Nonetheless, the calculation sketched above is important since it highlights the limitation of fund performance comparisons which focus only on "raw" return data. It is also worthwhile to note that there is no reference in any of the annual reports of the Caisse to a deliberate strategy of maintaining a degree of risk in the equity portfolio that is less than the degree of risk in the market portfolio.

It is also worthwhile to note that the concern regarding the comparison of unadjusted return data is not confined to academic economists. Those in the performance evaluation industry are well

aware of the limitations of such comparisons. At the very lease, many would prefer to see funds separated into groups that are homogeneous by asset mix, and to make comparisons of fund performance only within these groups.[14] Even these comparisons, however, are crude relative to those required under received theory. Interestingly, the U.S. Department of Labor has recently placed a top priority on making operational a risk-adjusted performance measure for pension funds, in order to address more rigorously the oft-cited concern that pension funds in the United States have been "underperforming" the broad-based market indexes in recent years.[15]

To sum up, it is not possible to perform the risk-adjusted performance comparisons that are theoretically correct, at least given the data available to the present author. The "raw" comparisons of the returns on funds which, in all likelihood, have different degrees of risk are of little value. It is not possible to draw meaningful conclusions regarding "inferior" or "superior" investment performance from them, and this exercise is not attempted here. It is just not possible to use unadjusted return data to draw inferences as to whether the auxiliary objectives of the Caisse have or have not conflicted with its fiduciary objectives.

3.3 Efficient Diversification

As noted in chapter two, the realized rate of return on an efficiently diversified portfolio must be very highly correlated with the return on the market portfolio as a whole. From this perspective, one of the most revealing statistics cited by the Caisse in its 1982 summary of comparative fund performance is the divergence between the

return on its segregated stock portfolio in 1982 (15.7%) and the return on the TSE 300 or market portfolio (5.5%). Relative to its mean return of 17.8% over the period 1975-1982, the market portfolio did quite poorly. Relative to its mean return of 16.2% over the same period, the segregated stock portfolio did relatively well. This is prime facie evidence that the return on the segregated stock portfolio is not highly correlated with the return on the market portfolio,[16] and hence that the segregated stock portfolio is not efficiently diversified. In effect, the beneficial owner of this stock portfolio (the supplemental pension plans) are bearing substantial idiosyncratic risk for which they are not being compensated in the form of a commensurately higher expected return.

In its 1982 Annual Report, the Caisse lists the market values of its holdings of common shares. The portfolio at that time contained the common shares of 93 different companies. Although this number is far less than the 300 firms that make up the Toronto Stock Exchange 300 Index, it is sufficiently large to suggest the possibility of efficient diversification. Yet, upon inspection, it turns out that the 10 largest share investments represent 49.2% of the market value of the entire stock portfolio. In conjunction with the prior evidence on the lack of close correlation with the return on the market portfolio, it suggests that likelihood of inefficient diversification.

To place this evidence in perspective, it would be useful to conduct a similar exercise for a sample of trusted pension funds, to determine the extent to which these funds are efficiently diversified. Unfortunately, neither data on the details of the stock portfolio or the correlation over time of its return with that on a broad market index

are readily available for such a sample. It is useful, however, to note some salient statistics released by the Ontario Municipal Employees Retirement Board, which manages the Ontario Municipal Employees Retirement System (OMERS). At year-end 1983, the market value of OMERS' capital market investments stood at $3.4 billion, of which the value of the equity portfolio was 41%. (In addition, OMERS holds special, non-marketable provincial debentures with a book value of $1.3 billion.) On a cost basis, the broad composition of the equity portfolio of year-end 1983 was as follows:

	$ Amount (000's)	Percent of Total
Canadian Equities		
Mutual Funds	13,612	1.3
Individual Stocks	653,484	61.0
U.S. Equities		
Mutual Funds	104,949	9.8
Individual Stocks	186,885	17.4
Global Equities		
Mutual Funds	112,473	10.5
	1,071,403	100.0

(Source: Ontario Municipal Employees Retirement Board, Inventory of Investments, 31 December 1983)

What is immediately apparent is not only the international diversification of the portfolio, but also the use of mutual funds to achieve additional diversification. The 10 largest share investments represent 23.3% of the book value of the entire stock portfolio, which is far short of the 49.2% (of market value) that they represent for the Caisse. Although this is a crude calculation, it does suggest that OMERS has a far more diversified

equity portfolio than does the Caisse. Further, no one assigns anything but a risk-return motive to the management of the OMERS' equity fund.

Two additional points merit note. First, the above discussion has focused on the efficient diversification of only the stock portfolio, not the entire portfolio of the Caisse. Although this is a widespread practice, it should be noted that it is the efficient diversification of the portfolio as a whole that is the theoretically correct focus. Secondly, although the evidence suggests that the segregated stock portfolio of the Caisse is not efficiently diversified, it does not inescapably follow that this is due to the auxiliary objective of promoting economic development. It may, of course, well be so.

4. The Use of "Abnormal" Returns to Identify the Investment Motive Assigned to the Caisse by the Capital Market

As noted in Chapter Two, it may be possible to extract signals from share prices at the time the Caisse's activities are made public as to whether or not the market assigns to it a non-wealth-maximizing motive. Although the resources to undertake a comprehensive look at this question are beyond the scope of the present study, it is useful to review prior work in this area. Eckel and Vermaelen examine whether or not abnormal returns have occurred on or about the dates at which 14 purchases of publicly-traded shares by agencies of the federal or provincial governments took place.[17] Of particular interest in the present context are the purchases of the shares of non-regulated firms, two of which were by the Caisse. The first, announced on 9 July 1979, was the purchase from MacMillan Bloedel of 18.9% of the shares of Domtar. The second, announced on 18 August 1981, was the purchase in the open market of an

additional 19% of the shares of Domtar by the Caisse and the Societé generale de financement du Québec. During the week prior to as well as contemporaneous to these announcements, the share prices of Domtar dropped significantly relative to the market on a whole. At annual rates, the abnormal return was -7.03% around the first announcement, and -19.90% around the second announcement. These results indicate that the market associated unfavourable "news" regarding the prospects for Domtar with the announcement of the Caisse's activities. It is quite possible that this result is due to the market's assigning a non-wealth-maximizing motive to the directors of the Caisse, although this cannot be asserted with certainty. More generally, Eckel-Vermaelen provide evidence that when government agencies purchase shares in unregulated public firms, their share prices tend to fall and their shareholders are thus subjected to abnormal negative returns. This is in sharp contrast to the evidence regarding private takeovers, as discussed at length in Chapter Two. To the extent that share purchases by a public sector fund are associated with a decline in their price (at the date this information is made public), existing shareholders suffer windfall losses. These losses are, evidently, a concern on equity grounds. In addition, if they reflect a rational market response to the likelihood of real investment or like decisions that conflict with the objective of share price maximization, they are also a concern on efficiency grounds.

5. Summary

The major conclusions of the analysis in this chapter are usefully summarized in point form.

(1) The mandate of the Caisse de dépôt includes, in addition to the standard fiduciary role, the objective of promoting the economic development of Quebec. Spokespersons for the Caisse repeatedly deny the potential for conflict between these objectives, although this potential is widely perceived within the investment community.

(2) Most public discussion focuses on the potential for conflict inherent in the directors of the Caisse assuming a managerial role. Yet the potential for conflict clearly exists even if the directors opt for a passive role. The source of the potential conflict is the possibility of inefficient diversification.

(3) Promoting the economic development of Quebec could involve either the redress of a market failure or the delivery of a subsidy to promote the growth of a firm or industry beyond that suggested by extant market forces. Yet the potential for a "province-building" role for public sector funds is likely to be limited largely to their purchase of shares in small- or medium-sized firms whose shares are not traded on an organized exchange, if the fund remains a passive investor.[18] The ability of a public sector fund to deliver a subsidy if its activities consist of the purchase or sale of actively traded securities is quite limited. If these activities are to be used to promote economic development, the suggestion to many is that they must

entail the adoption of a managerial role by the Caisse. Further, if this managerial role is not simply to duplicate the efforts of extant management, it must involve other than the maximization of shareholder wealth as an objective.

(4) There is evidence that existing shareholders of Domtar suffered windfall losses at the times of the announcements (9 July 1979 and 18 August 1981) of the Caisse's purchase of Domtar shares. This suggests that market participants may assign a non-wealth-maximizing motive to the directors of the Caisse. It also draws attention to both the equity and efficiency issues discussed in the text. Additional empirical work on the announcement effects of share purchases or like activities by the Caisse (such as seeking board representation) is a promising area for future research.

(5) The perception exists that the Caisse may seek to alter real investment or like decisions of firms whose shares it holds. This perception could raise the required rate of return on firms who are or could be potential targets for such pressures. It is virtually impossible to determine if this in fact has happened.

(6) The size of the portfolio managed by the Caisse will continue to grow, although perhaps at a less rapid rate than in the past. The chief source of uncertainty is linked to the timing and magnitude of the inevitable increases in the QPP contribution rate.

(7) With about 20% of its assets invested in stocks, the Caisse has a lower (higher) percentage than the typical trusteed pension fund in the private (public) sector. At present, OMERS has over 40% of its funds invested in stocks.

(8) If the QPP subsidizes provincial debt, the subsidy is largely a "wash" in view of the fact that QPP contributors are also the taxpayers of the province. If the QPP subsidies private debt (or stocks, if possible) its contributors bear the cost. Under certain circumstances, the taxpayers of the province also bear the cost if Government and public sector pension funds accept a below-market rate of return on their assets.

(9) It is not possible to draw meaningful inferences regarding the "superior" or "inferior" performance of the assets managed by the Caisse, much less link them to a possible conflict of interest, from return data that are unadjusted for risk. This problem is reviewed, and an illustrative calculation is sketched.

(10) Because the return on the segregated stock portfolio of the Caisse does not appear to be highly correlated with that on the TSE 300 Index, the suggestion is that this stock portfolio is not efficiently diversified. If so, beneficial owners of the fund are bearing risk for which they are not being compensated. By contrast, the equity portfolio of the Ontario Municipal Employees Retirement System (OMERS), another large fund in the public sector, is far more diversified. It is not possible to assign <u>definitively</u> this inefficient diversification to the development objective, although this may well be the case.

CHAPTER THREE - Footnotes

1. Fullerton, D.M. "Caisse de dépôt - Un regard en arriere", in Claude E. Forget, La Caisse de dépôt et placement du Québec (Montreal: C.D. Howe Institute, 1984).

2. The reference to common shares as a hedge against inflation is inconsistent with existing scientific evidence. Studies in both Canada and the United States have shown that, at least for the post World War II period, unanticipated inflation has on average served to depress the realized real return on a diversified portfolio of common stocks. If the reference in the annual report is to the higher ex ante real return on stocks versus bonds, then it is not a reference to stocks as an inflation hedge per se. For Canadian evidence on real stock returns and unanticipated inflation, see J.E. Pesando and S.A. Rea, Jr., Public and Private Pension Plans in Canada: An Economic Analysis (Toronto: University of Toronto Press for the Ontario Economic Council, 1977), Appendix A.

3. The département des financements d'entreprises is now entrusted with coordinating all operations related to the financing of Quebec small - and medium - sized firms. As of 31 December 1982, investments in the common shares and convertible securities of private firms not listed on an exchange totalled $27.4 million, while investments in the debentures of these firms totalled $110.6 million. The corresponding figures for corporations in the Quebec public and co-operative sectors were $89.7 million and $74.5 million, respectively. Total investments in shares and debt of Canadian enterprises equalled $3,075.8 million

and $682.9 million, respectively. Figures are taken from the 1982 Annual Report of the Caisse.

4. A value-weighted index of the shares traded on the Toronto Stock Exchange (or, better, on all organized exchanges in Canada) could serve as a proxy for the return on the market portfolio. A complication arises from the fact that the Caisse has added substantially to its equity holdings in recent years. The use of the Caisse's actual stock portfolio at a given point in time may provide a misleading signal if the portfolio is indeed in a rapid state of flux.

5. In 1983, the Caisse held 25% of the common shares of Brascade Resources Inc., 30% of Provigo Inc., and 22% (45% with Société générale de financement du Québec) of Domtar Inc.

6. Marcel Côté and Léon Courville, "La perception de la Caisse de dépôt et de placement du Québec par les chefs d'entrepises" in Forget, op. cit.

7. These and subsequent figures are taken from annual reports of the Caisse.

8. Parliamentary Task Force on Pension Reform, Report (Ottawa: Queen's Printer, 1983).

9. In Ontario Proposals for Pension Reform, released in April 1984, the Treasurer of Ontario proposes to increase the CPP contribution rate by 0.2% per year commencing in 1987, so that the contribution rate rises to 9% by 2013. This proposal, if duplicated for the QPP, would produce a fund that is much closer to the low growth than to the high growth scenario.

10. If the province were to reduce its general taxes by the amount that it lends to the QPP, with its spending and external borrowing unchanged from what they would otherwise be, the QPP would - in effect - be run on a pay-go basis. The excess of QPP contributions over expenses, which is the source of new investment funds, is simply used to reduce taxes. Workers in the future would have to pay taxes to discharge both the unchanged external debt and the debt owed the QPP. The analysis in the text also assumes that the new investment funds of the QPP never exceed the borrowing requirement of the province. If this were to occur, and if the government then responded by cutting taxes, the QPP would effectively revert toward a pay-go system.

11. To complete the analysis of the ultimate incidence of the subsidy, one would have to determine how the consumption versus saving decision of the representative household is altered when the QPP fund provides the subsidy to private debt.

12. If a private firm voluntarily offers a pension plan, then - in long-run equilibrium - the workers will ultimately bear its full cost, net of any productivity enhancement that results from its incentive effects. If this were not the case, the firm would terminate the plan.

13. Public sector funds include municipalities and municipal entreprises, provincial crown corporations and government agencies, federal crown corporations and government agencies, educational institutions and organizations, health institutions and organizations. See Statistics Canada, Trusteed Pension Plans Financial Statistics (Catalogue 74-201), latest issue, for historical data.

14. Based on private discussions with consultants who are involved in the preparation and dissemination of portfolio performance measures.

15. Based on discussions with Dr. Richard Ippolito, Director, Office of Policy and Research, Office of Pension and Welfare Benefit Programs, U.S. Department of Labor.

16. If a stock portfolio had the same beta coefficient as the market as a whole (i.e. one), then its realized return in every period must exactly equal that on the market portfolio if the stock portfolio is efficiently diversified. If the stock portfolio has a beta coefficient that is less than one, then its expected return will be less than that on the market portfolio. Nonetheless, its realized returns must be perfectly correlated with those on the market portfolio.

17. See Catherine Eckel and Theo Vermaelen, "Internal Regulation: the Effects of Government Stock Ownership on the Value of the Firm", mimeograph, May 1984. Eckel-Vermaelen employ the now standard "event" methodology, which keys on the identification of abnormal share price behavior (and thus abnormal returns) on or about the date at which it is reasonable to presume that the stock market received new information regarding some pertinent item. The methodology uses the beta or systematic risk of the shares to separate out the "normal" price movement which one would expect to have observed on the basis of the price behaviour of the market as a whole.

18. Jack Mintz also notes that if there is a risk sharing rationale for the (partial) public ownership of the equity shares of a commercial firm, then one would expect to see government investment in the shares of smaller firms which have less ready access to the capital market. The activities of the Caisse thus suggest that this is not the rationale for its involvement. For a formal treatment of the risk-sharing rationale, see J.M. Mintz, "Mixed Enterprises and Risk Sharing in Industrial Development", mimeograph, Queen's University, undated.

CHAPTER FOUR - The Alberta Heritage Savings Trust Fund

1. Objectives

1.1 Background

The Alberta Heritage Savings Trust Fund (AHSTF) was established in 1976 as a means of saving a portion of the royalty and other revenues that the province of Alberta receives from the production of its non-renewable oil and natural gas resources. Prior to the 1982-1983 fiscal year, the AHSTF derived its funds from two sources: (1) an annual transfer of 30% of the province's non-renewable resource revenues; and (2) the retention of its investment earnings. Since fiscal year 1982-83, in response to a deterioration in the province's fiscal postion, all of the net earnings of the AHSTF have been diverted to the General Revenue Fund. This is to continue until the financial situation of the province improves. In addition, the percentage of the non-renewable resource revenues allocated to the AHSTF has been reduced from 30% to 15% for the fiscal years 1983-84 and 1984-85. This percentage is now to be specified on an annual basis.

The three objectives of the AHSTF, as reiterated in the 1983-84 Annual Report, are:

(1) to save for the future;

(2) to strengthen or diversify the economy of the province; and

(3) to improve the quality of life for Albertans, both currently and in the future.

As of 31 March 1984, total assets of the AHSTF stood at $13.712 billion. The assets of the several divisions of the ASHTF, as well as the legislative criteria for and the nature of their investments, are

summarized in Table 7. The Alberta Investment Division is the largest, and $7,409 million of its $8,079 million fund is invested in the debentures of Alberta Crown Corporations. The purpose of this Division is to strengthen and to diversify the Alberta economy while providing a "reasonable" rate of return. The Canada Investment Division is to provide all residents of Canada with access to the AHSTF via loans to the federal or provincial governments or their entities. Investments under the Capital Projects Division are required to provide long-term social and economic benefits to Albertans, although they might not yield a return of income to the AHSTF. Of particular interest in light of the concerns of the present study is the Commercial Investment Division. Investments of this Division, which was created in 1980, are guided exclusively by "commercial" or standard risk-return considerations. At present, this Division is still relatively small, with assets (on a cost basis) representing only 1.45% of those of the AHSTF. The vast majority of its funds (91.9% at market value) are invested in the common shares of Canadian firms listed on organized exchanges.

1.2 Analysis

The AHSTF has no mandate to operate in a fiduciary manner on behalf of its beneficial owners, the residents of the province of Alberta. In this sense, its original mandate differs sharply from that of the Caisse de dépôt. Investments are, of course, to provide a source of income to the AHSTF. Yet objectives such as the strengthening and the diversifying of the province's economy, so as to lessen its dependence on its resource base, receives continued emphasis. In a conference held at the University of Alberta in October 1979, the then Deputy

Provincial Treasurer - A.F. Collins - acknowledged the fact that these objectives may not be fully compatible:[1] "There is something of a conflict between the two criteria if one takes the view that economic development financing necessarily involves a concessionary element". No such acknowledgement, to the best of my knowledge, has been officially voiced by the Caisse de dépôt. This potential conflict is also implicitly acknowledged in the legislative criteria for investment for all but the Commercial Investment Division. As noted in Table 7, a "reasonable return or profit" is the investment criterion, as distinct from a "commercial return or profit" for the Commercial Investment Division.

One may view the saving objective assigned to the AHSTF in a number of ways. On the one hand, it may be characterized as a means of sharing across generations the economic rents associated with the province's non-renewable resources. On the other hand, it may be viewed simply as a means of facilitating the running of a substantial government surplus, perhaps beyond that which would be politically acceptable if all sources of government saving were co-mingled. This is accomplished by earmarking a certain portion of government revenues to the AHSTF, which then invests this amount of gross government saving. The provincial government has been willing to divert the net earnings of the AHSTF to general revenues, and to reduce the annual capital contribution from 30% to 15% of revenues from non-renewable resources. This behaviour highlights the fact that the decision to establish the AHSFT, as well as to set its contribution rate, are usefully viewed as part of the province's short- and long-run fiscal policies. As candidly acknowledged by the Provincial Treasurer, Albertans would have faced both greater tax

increases and cuts in public services in 1983-84 if the government did not have access to the investment earnings of the AHSTF. This episode also highlights the difficulty of attempting to make even medium-term projections of the rate of growth of the AHSTF.

Suppose, for the sake of argument, that the AHSTF were to hold only debentures issued or secured by the province of Alberta. Would it be appropriate to view the AHSTF as representing a net addition to public saving? After all, these debentures - even if held by the AHSTF - do represent a tax liability of the residents of Alberta.

The answer depends on how governments spending and taxes are affected by the existence of the AHSTF. Suppose, initially, that no AHSTF exists, but that the government raises taxes by an amount that is identical to that which would otherwise be contributed to the AHSTF. If government spending is unchanged, the amount of government saving (dissaving) is increased (reduced) and old debt issues are retired (new debt issues reduced). The existence of the AHSTF under the assumption of unchanged government spending produces a like result. In this case, the AHSTF receives the proceeds of the tax increase and purchases a like amount of government bonds. The amount of government bonds outstanding and not held by the AHSTF is reduced. This external debt represent a true liability of the taxpayers of the province. The bonds held by the AHSTF are both an asset and a liability of the taxpayers of Alberta, and represent a "wash" on this account.

In short, to determine whether or not the creation of the AHSTF represents a net increase in public saving requires - in this instance - one to determine how the government's spending and tax policies

have been affected. Even if the AHSTF were to hold only provincial debt, one could not conclude that there has been no net increase in public saving. If the AHSTF held only private sector securities, then the AHSTF would truly represent an asset of the taxpayers of the province. Again, however, the question of whether the creation of the AHSTF is associated with a net increase in public saving depends on what happens to the government's spending ant taxation policies. In this instance, most would agree, the likelihood of government spending increases or other tax reductions is less since the government would have to raise all of its debt finance on external markets.

Fortunately, the mandate of this paper does not include an attempt to answer the question sketched above. The purpose of this discussion is simply to emphasize the fact, especially since the AHSTF holds large quantities of the debt of Alberta Crown corporations, that the AHSTF must be viewed in the context of the province's overall fiscal stance. This is, of course, also highlighted by the province's recent decision todivert the net investment earnings of the AHSTF to the General Revenue Fund. No fiduciary motive is, in general, assigned to the management of the gross public saving represented by the AHSTF, and no attempt is made to disguise the integration of the AHSTF with the province's overall fiscal policy. Only in the Commercial Investment Division is the fiduciary objective explicitly of paramount importance.

2. Equity Investments of the AHSTF and the Capital Market

As noted, the equity investments of the AHSTF are held in the Commercial Investment Division, founded in 1980. Although equities constitute the primary investment of this Division, they nonetheless

represent less than 2% of the assets of the AHSTF. The market value of the equity portfolio stood at $2.75 million on 31 March 1984. It is thus less than 10% of the size of equity portfolio of the Caisse de dépôt.

The Commercial Investment Division alone is given the exclusive mandate to earn a commercial rate of return. It alone purchases on the open market the voting shares of Canadian corporations. By design, there can be no conflict between the return objective of the AHSTF with respect to its equity investments and its objective of promoting the strengthening and diversification of the province's economy. In November 1980, the Provincial Treasurer issued investment guidelines for this Division. These guidelines proclaimed:

(1) investments are not to exceed 5% of the issued and outstanding shares of any corporation;

(2) the Division will not generally exercise its voting rights at shareholder meetings, but may do so (usually by proxy) if such action is deemed necessary to protect the value of the investment; and

(3) no investment in securities (equity or debt) is to exceed 10% of the market value of the Division's portfolio.

In short, investments in stocks are to be made with the exclusive attention to risk-return considerations. Such investments are also to be purely passive and diversification is an important objective.

To quote the Treasurer of Alberta when he proposed the 1980 amendments to the Alberta Heritage Savings Trust Fund Act:[2]

> The investments in shares of Canadian and/or foreign corporations would of course always be in the nature of a passive investment. They would not involve the control of corporations. They would be investments in much the same way as pension funds in Canada, the United States, and other countries invest in shareholdings.

Indeed, the Act requires that this Division hold only securities that are authorized investments under subsection 63(1) of the Canadian and British Insurance Companies Act (Canada).

Obviously, no managerial role is envisioned for the directors of this Division. Not surprising, there has been relatively little concern expressed in the financial press regarding the possible adverse impact of the AHSTF on the Canadian capital market.

Since there is no development motive associated with the equity portfolio of the AHSTF, there is no reason to believe that this portfolio, as a deliberate act of policy, will be incompletely diversified. There are no data on the realized returns on this portfolio nor on its composition, at least in the Annual Reports of the AHSTF. It is thus not possible to investigate directly the correlation of its returns with the market as a whole, or to determine "by inspection" the likelihood that the portfolio is well diversified. The fact that this Division is viewed as a means of diversifying the overall portfolio of the AHSTF,[3] which is heavily invested in fixed-income securities, merits note in this regard.

3. Summary

In point form, the major issues raised in the preceding discussion may be summarized as follows.

(1) The AHSTF is best viewed as an integral part of both the short- and long-run fiscal policies of the province of Alberta. With the sole exception of the (relatively small) Commercial Investment Division, the gross saving represented by the AHSTF is invested with other than risk-return considerations as the paramount objective. The fact that the objective of strengthening and diversifying the Alberta economy may conflict with traditional risk-return objectives is openly acknowledged, and serves to highlight the absence of a pure fiduciary motive.

(2) In managing its equity portfolio held in the Commercial Investment Division, the AHSTF adopts the role of a passive investor and is guided solely by risk-return considerations. Unlike the Caisse de dépôt, the AHSTF does not seek board representation, limits its holdings to a maximum of 5% of a corporation's voting shares, and has diversification of its equity portfolio as an explicit objective.

(3) The integration of the AHSTF into the overall fiscal stance of the province of Alberta, and the absence of a pure fiduciary role with respect to the gross saving so earmarked, merit emphasis. Channelling the target fraction of resource-

based revenues to the financing of Alberta Crown corporations or to direct capital expenditures (or even to a portfolio of publicly traded shares), without the intermediary vehicle of the AHSTF, would not change their economic impact. The fact that objectives with regard to the provincial economy are not addressed through the purchase or sale of publicly traded securities, particularly the voting shares of Canadian corporations, pre-empts most of the concerns and policy issues that arise in the context of the Caisse de dépôt. Important questions such as the optimal degree of public saving from the revenues associated with a non-renewable resource base and an optimal strategy with regard to diversification of the province's economy are obviously beyond the scope of the present paper.

CHAPTER FOUR - Footnotes

1. A.F. Collins, "The Alberta Heritage Savings Trust Fund: An Overview of the Issues", Canadian Public Policy VI, Supplement, February 1980, page 162.

2. Alberta Hansard, 13 May 1980, page 933.

3. Alberta Heritage Savings Trust Fund, Annual Report 1983-84, page 27.

CHAPTER FIVE - Bill S-31 and Like Policy Initiatives

1. Background and Issues Raised by Bill S-31

Although it has been withdrawn, the issues raised by Bill S-31, introduced in the Senate on 2 November 1982, are not likely to disappear. For this reason, a brief summary of the provisions of Bill S-31, and a more detailed analysis of the issues that it raises, are presented in this chapter.

In essence, Bill S-31 sought to prohibit provincial governments or their agencies from holding more than 10% of the voting shares of any company involved in interprovincial or international transportation.[1] This would include rail, air, trucking, shipping and energy networks such as natural gas pipelines. The catalyst to Bill S-31 was the announced intention of the Caisse de dépôt to increase its holding of the shares of Canadian Pacific Ltd. above the 10% level and to seek representation on the company's board of directors. The federal government's rationale for introducing the legislation is linked to the division of powers. The federal government is responsible for interprovincial transportation, and viewed the proposed activities of the Caisse de dépôt as a means by which the province of Quebec might seek - through ownership - to circumvent the federal government's jurisdiction. Implicit in this view is the dual concern that the directors of the Caisse would (1) seek to influence the real investment or like activities of Canadian Pacific Ltd. and (2) such influence would not be fully coincident with the objective of maximizing shareholder wealth.[2] If such influence were fully coincident with the objective of maximizing shareholder wealth, then it would simply reinforce the

decisions of extant management. Spokesmen for the Caisse responded by arguing that its policy of seeking board representation is designed only to protect its investments, and that Bill S-31 unduly restricts its investment opportunities. This latter question became the focus of much of the public debate, and the ensuing controversy was further complicated by ambiguities regarding the extent to which Bill S-31 would in fact restrict the activities of agencies such as the Caisse de dépôt.

Among the many questions raised by the introduction of Bill S-31, the following are of particular importance.

(1) Would investment restrictions on provincial governments and their agencies (or on the federal government and its agencies) unduly limit their investment opportunities and work to the detriment of the companies whose shares are affected?

(2) Is there evidence that provincial governments or their agencies have been or are willing to use their share holdings as a lever to influence management to pursue policies favourable to the province but not in the interest of shareholders as a whole?

(3) Do concerns akin to those in (2) above suggest that pension funds, both public and private, be restricted in their holdings of voting shares to far less than the 30% allowed under Ontario Pension Benefits Act and related statutes?

(4) To what extent are initiatives such as Bill S-31 necessary to protect the federal government's jurisdictional prerogative, in light of the existence of federal regulatory bodies such as the Canadian Transport Commission?

(5) To what extent would legislation restricting federal, provincial or private funds from holding more than (say) 10% of the voting shares of any company, but with no limit on non-voting shares, affect their investment opportunities?

Clearly, one cannot view Bill S-31 in isolation from the broader question of the potential conflict of interest between the economic objectives of federal and provincial governments. Yet it is still possible to address the more well-defined of the economic questions raised above.

Question (4) is unique in certain respects. The very introduction of Bill S-31 may be viewed as evidence that the federal government had deemed, for unspecified reasons, that the existing regulatory and legal framework was inadequate to protect its jurisdictional prerogatives. No persuasive reasons for this to be the case are readily apparent to the present author. Although central to Bill S-31 per se, this question is not pursued further in this report. Question (2), as noted in chapter three, is virtually impossible to resolve on the basis of publicly available information. Alberta's purchase of Pacific Western Airlines (PWA) in 1975 and the subsequent moving of PWA's head office from Vancouver to Calgary is an oft-cited example of the potential for conflict. Yet the discussions surrounding the federal government's introduction of Bill S-31 did not produce concrete examples of prior abuse. Instead,

Bill S-31 was touted by its proponents as a means of pre-empting such abuses. As noted in chapter three, one may be able to deduce, if the activities of a provincial fund are confined to the purchase or sale of actively traded shares, that success in meeting a development objective must entail both a managerial role and a willingness to make decisions which conflict with the objective of maximizing shareholder wealth. Again, there is little that can be added to this debate, given the limitations of information that is in the public domain. Questions (1), (3) and (5) thus become the focus of the analysis to follow.

2. Impact on Investment Funds of Imposing Limits on Share Holdings

If capital markets are informationally efficient, then prices will be set so that the expected return on the shares of each company will be commensurate with their degree of systematic or nondiversifiable risk. The prudent investor will hold a well-diversified portfolio that eliminates all of the idiosyncratic or diversifiable risk. If this is not done, the investor will be bearing risk for which he is not compensated in the form of a higher expected return. If limits are imposed on the extent to which an investor can hold the shares of a particular company or companies, then that investor may not be able to hold an efficiently diversified portfolio. If so, the investor is disadvantaged by virtue of the fact that his portfolio cannot lie on the efficient frontier. The investor bears too much risk, given the expected return on the portfolio, or - equivalently - earns too low an expected return, given the risk of the portfolio.

The received argument sketched above focuses attention on the key question surrounding Bill S-31 or a like initiative. Does it prevent the restricted investor from holding a well-diversified portfolio? In the standard capital asset pricing model, a prudent investor holds a weighted average of the risk-free asset (Treasury Bills) and the market portfolio. The weights reflect the degree of risk that the investor chooses to bear, and determine as well the expected return on his portfolio. This result suggests a simple benchmark. If one wishes to determine if Bill S-31 would impede efficient diversification by restricting investment in the shares of firm A, one need only look at the ratio of the value of the shares of firm A to that of all shares in the investor's opportunity set. In a perfectly diversified portfolio, an investor holds all shares in the exact proportion that they represent the market value of all shares. If, for example, the Caisse's equity portfolio is worth $3 billion and if the market value of all shares is $X billion, then the Caisse would hold 3/X of the shares of every firm whose shares are traded on an organized exchange. In practice, none - except "index funds" - seek complete diversification. Nonetheless, this is a useful benchmark.

Suppose, for example, that Bill S-31 limits a public sector fund from holding more than 10% of the voting shares of firm A. Suppose that the market value of firm A's shares is $1 billion, and that the market value of all equities in the opportunity set is $100 billion. Suppose, finally, that the size of the equity holdings of the public sector investment fund is $3 billion. If it held a completely diversified portfolio, the public sector fund would invest 3/100 * $1 billion or

$30 million in the shares of firm A. Since the 10% limit on the shares of firm A amounts to $100 million, the restriction in this example is not binding. It does not prevent the public sector fund from holding a completely diversified portfolio, should it elect to do so. If the size of the public sector fund in this example were so large that the investment restriction did bind, then the beneficial owners of the fund would be disadvantaged.

To offer an empirical perspective on this issue, consider the following. At year-end 1984, the approximate market value of the stocks that comprise the Toronto Stock Exchange 300 Index was $90 billion. (The TSE Float, defined as the total number of shares issued and outstanding minus shares held by control blocks of 20% shares or more, would have a lower market value.) The approximate market value of all Canadian based stocks listed on the Toronto Stock Exchange was $175 billion. If the directors of a public sector fund were limited to holding 10% of the shares of any one firm, and if they wished to hold a fully diversified portfolio as defined by the TSE 300 Index, then the maximum size of the fund would be $9 billion. The fund would hold 10% of the shares of every firm in pursuit of its diversification objective. Its largest investment would be $800 million in the shares of Bell Canada, whose year-end 1984 market value was about $8 billion. As noted, the market value of the equity portfolio of the Caisse de dépôt at year-end 1983 was $4.8 billion, which is far less than the maximum fund size described above. Over time, one would expect the market value of listed shares to continue to rise. As discussed earlier, the total portfolio managed by the Caisse will also continue to grow, but perhaps at a slower rate

than in the past. Even if the size of the equity portfolio of the Caisse were to grow at a more rapid rate than the market value of Canadian equities, the opportunities for international diversification merit emphasis. These opportunities are as yet largely untapped.

In fact, the public debate on this aspect of Bill S-31 has been quite misdirected, at least if one accepts as a point of departure the received analysis of financial economics. Spokesmen for the Caisse noted, for example, that the weight of Canadian Pacific Ltd. in the Toronto Stock Exchange 300 Index is 4.21%, and that these shares then represented 7.5% of the Caisse's stock portfolio. They then argued that the weight of Canadian Pacific Ltd in the Caisse's portfolio should be twice its weight in the TSE index or 8.42%, and that Bill S-31 was therefore impeding the prudent management of this stock portfolio.[3] To financial economists, this argument is entirely unpersuasive. Equally unpersuasive are simple comparisons which show, for example, that over the preceding 5 years the TSE 300 had yielded a return of 12.8%, versus a 14.3% return for Canadian Pacific Ltd.[4] Data on the ex post returns on Canadian Pacific Ltd. relative to the ex post returns on other shares or a broad index of shares convey no useful information regarding the likelihood of "superior" portfolio performance in the future. In an efficient capital market, ex post returns are randomly distributed around ex ante or equilibrium returns. The latter reflect the non-diversifiable risks of the respective shares.

Since Bill S-51 has been withdrawn, there is no reason to explore its particular implications. Nonetheless, the fact that much of the debate surrounding its impact appears to be somewhat misdirected merits emphasis. On balance, and especially in light of the relatively untapped market for foreign securities, it would seem that the capacity of Bill S-31 or a like initiative to disadvantage a public sector investment fund is easily overstated, at least if the fund is managed solely according to risk-return considerations. The suggestion must be that the crucial economic issues lie elsewhere. From the perspective of the federal government, the key issue is whether a province may - through an ownership route - circumvent federal jurisdictional prerogatives. From the perspective of participants in the capital market, the key issue is whether significant holdings by a public fund are likely to be associated with its directors (1) opting for a managerial role and (2) pursuing other than wealth-maximizing objectives, to the detriment of other shareholders. The latter concern exists quite independently of any federal-provincial jurisdictional issues.

Finally, one should note that Bill S-31 or a similar initiative is not likely to disadvantage companies in their attempts to raise equity capital. If the capital market is efficient, activities of informed investors will ensure that share prices are set so as to provide investors with an expected return commensurate with risk. This expected return is, of course, the cost of equity capital to the company. It will be unchanged so long as the restrictions in Bill S-31 or like initiatives leave equilibrium share prices unchanged. There is no reason for this not to be the case.

3. Pension Funds, Public and Private, and the 30% Limit on Share Holdings

The Pension Benefits Act of Ontario and like statutes limit private pension plans to holding no more than 30% of the shares of a company. The legislation establishing the Caisse de dépôt imposed the same limit. Do concerns akin to those raised in the discussion of Bill S-31 suggest a rationale for reducing these limits, perhaps to 10% or less?

As noted in the previous section, a 10% (or less) limit on the fraction of the shares of a company that a particular fund may hold is unlikely to restrict its ability to hold a well-diversified portfolio. From this perspective, even a sharp reduction in the permissible limit is not likely to disadvantage pension funds, even large ones. But is such legislation necessary? So long as private funds are managed exclusively according to risk-return considerations, and so long as competition prevails among those seeking to manage pension funds, such an initiative would seem to be unnecessary! This view is reinforced by the fact that private pension funds have traditionally been passive investors and have not, for example, sought board representation. Even if pension funds were to shed their passive role, neither fund performance nor the efficient allocation of financial capital would be compromised so long as the directors of these funds were concerned solely with maximizing the value of their shares. Indeed, by reducing the separation between ownership and control, a more active involvement by pension fund managers could promote managerial efficiency. Only if a private pension fund had social investment as an objective and sought an active managerial role would this rather sanguine conclusion